THE RELATIONSHIP BETWEEN HERZBERG'S
MOTIVATOR/HYGIENE THEORY AND WORK BEHAVIOR TYPES
OF ACADEMIC LIBRARIANS IN FLORIDA

BY

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A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

1994

Dedicated to

my mother,
Thelma Summers Ritzen

and

to the memory of my father,
Franklin Wheeler Ritzen

ACKNOWLEDGMENTS

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December, 1994

Chairman: John M. Nickens
Major Department: Educational Leadership

The problem this study investigated was to relate the Herzberg theory
that job satisfaction and job dissatisfaction are affected by motivators and
hygienes to the theory derived from Nickens and Bauch that motivators and
hygienes are perceived differently by different work behavior types.

The specific questions were as follows: (a) What are the academic
librarians work behavior types as measured by the Marcus Paul Placement
Profile (MPPP)? (b) What are the motivators and hygienes perceived by
academic librarians as reported on the Minnesota Satisfaction Questionnaire
(MSQ)? (c) Do factors derived from a factor analysis of the MSQ show
characteristics of motivators and hygienes? and (d) Do the different work
behavior type scores of academic librarians in Florida, as measured by the

MPPP, relate differently to the motivator and hygiene scores derived from the MSQ?

A group of 350 potential subjects was identified through membership in one or more appropriate professional organizations. The MPPP and the MSQ were administered to determine work behavior type and to measure intrinsic, extrinsic, and total job satisfaction.

The potential subjects were mailed MSQ, MPPP, and supplementary demographic forms along with an explanatory cover letter. The letter sent with the instruments promised the participants the results of their individual MPPP type analyses, if they indicated that they wished to receive them. A summary of study results was also offered to participants. A total of 202 subjects provided usable response sets.

Participants were unevenly divided among the four work behavior types, a finding consistent with most previous studies. Concentrators predominated, followed by producers, with inducers and energizers accounting for fewer than 10 percent each of the total sample.

In general, participants were satisfied with their jobs although differences between groups were apparent. A strong relationship between intrinsic, or job content, scores was found for concentrators. A weak to moderate relationship between some individual MSQ items and producers was found.

Implications for academic librarians include the use of work behavior type and factors in job satisfaction or job dissatisfaction for recruitment to the profession, job placement, development and training, academic library management style, and effective team building.

CHAPTER I
INTRODUCTION

For the majority of adults in the United States today, work is a central factor and defining characteristic of life. More than at any other period in our history, paid employment fills a large portion of time for both women and men. Accordingly, it is even more important to realize that:

> In order that people may be happy in their work, these three things are needed: They must be fit for it. They must not do too much of it. And they must have a sense of success in it.
>
> (Ruskin, 1851)

Two of the three things Ruskin set forth as necessary for happiness in one's work are major elements in this study—namely, work behavior type, or "fit,"—and job satisfaction, or "sense of success."

Background and Rationale

Research into work behavior and job satisfaction has been conducted since the early years of the twentieth century when industrial psychologists such as Frederick Taylor (1911) began to show an interest in job satisfaction studies. Although Taylor's major research interest was in using time and motion studies to increase productivity, he did mention the importance of human factors in completing tasks (Wellstood, 1984/1985). About 20 years later, Elton Mayo conducted studies into work productivity and observed that positive human relationships, which were important to workers, could lead to greater job satisfaction and, ultimately, to increased productivity (Mayo, 1933). A. H. Maslow investigated elements of job satisfaction and developed a

theory based upon an ascending hierarchy of human needs, beginning with the lowest order, basic physiological need, and extending through the highest level, self-actualization. Although lower-order needs had to be satisfied before higher-order needs began to assume any importance, when a need was met, it no longer served as a motivating force (Maslow, 1943).

Maslow's work was a foundation for Herzberg (1966; Herzberg, Mausner, & Snyderman, 1959) who developed a two-factor theory of job satisfaction (Glenn, 1982/1983; Wellstood, 1984/1985). Two types of work variables, the motivators and hygiene factors, were theorized to influence job satisfaction and job dissatisfaction. Motivators, which included achievement, recognition, advancement, responsibility, and interest in the work itself were classed as satisfiers as they exerted a positive effect on workers' output. The motivators corresponded to the higher-order needs in Maslow's ascending hierarchy of needs.

Analogous to Maslow's lower-order needs, hygiene factors included pay, security, supervision and physical working conditions. The absence of these factors was limited to job dissatisfaction. It is critical to recognize that Herzberg et al. (1959) emphasized that the presence of a particular hygiene factor did not necessarily lead to job satisfaction and that the lack of a motivator did not automatically create job dissatisfaction. That is, "the opposite of job satisfaction is not job dissatisfaction, it is an absence of job satisfaction. Conversely, the opposite of job dissatisfaction is not job satisfaction, it is an absence of job dissatisfaction" (Olson, 1988/1990, p. 32).

Since the first publication of Herzberg's theory, hundreds of studies based upon it have been conducted with virtually every level of worker represented. Since 1984, more than 60 dissertations have been written that relied, at least in part, upon Herzberg for a theoretical base. Previous studies (for example, Thomas, 1977; Kozal, 1979; Burr, 1980/1981) have investigated

aspects of Herzberg's theory among various groups including academic administrators. Additional studies (Glenn, 1982/1983; Wellstood, 1984/1985; Olson, 1988/1990; Poston, 1988/1989; Barber, 1989/1990) added the application of the Marcus Paul Placement Profile (MPPP) in their studies of medical technologists, vocational educational administrators, college placement officers, faculty and deans in colleges of nursing and cooperative-extension service mid-level managers. Three studies (Plate & Stone, 1974; Dahlstrom, 1982; Hamshari, 1985/1986) investigated aspects of the theory in relation to professional librarians. Plate and Stone used the Herzberg "critical incidence technique" (Herzberg, 1966) in an analysis of job incidents. The study population included American and Canadian librarians attending motivational workshops held in conjunction with professional meetings. They concluded that the theory applied with as much force to librarianship as to other occupations studied. Hamshari compared the job satisfaction of professional librarians in the technical and public service departments in 20 academic libraries in Jordan. Dahlstrom investigated the motivation for participating in continuing education. He administered a questionnaire to a random sample of 550 librarians throughout the southwestern United States and identified 20 factors that were classed as motivators for participating in continuing education. The seven items that were shown to be most significant were identified as Herzberg motivators.

The theory of work behavior types suggests that basic differences in personality traits may have an impact upon work behaviors. Investigators from Wundt in the 1890s to Nickens in the 1980s have added to the body of research in this area. One important contribution was that of W. Marston (1927; 1928), who emphasized the emotions of normal people. In the world of work, a theory based upon "normal" individuals would appear to be particularly useful.

Marston's work and the research of Nickens (1984) and Bauch (1981) led to the development of the Marcus Paul Placement Profile (MPPP). A tool designed to determine work behavior type in order to facilitate correct job placement, the MPPP is intended for use in both educational and business environments. Different personality types excel at different types of work (Holland, 1959). If this construct is accepted, then a successful matching of jobs and personnel can be expected to increase satisfaction in the worker, lead to greater productivity and more adequately fill the needs of both the organization and the individual (Nickens, 1984).

Previous studies have investigated the personal characteristics and the personality type of professional librarians (Bryan, 1952; Douglass, 1958; Morrison, 1961; Clift, 1976; Agada, 1984/1985; David, 1990/1991). Numerous studies have investigated aspects of job satisfaction among librarians (for example, D'Elia, 1975; Chwe, 1976; Miniter, 1975/1976; Rockman, 1985/1986). However, no research studies were found that specifically related job satisfaction and work behavior types among librarians, particularly librarians employed in institutions of higher education. Thus, a study of the work behavior types of academic librarians has the potential to add a new dimension to knowledge in the area of work behavior and job satisfaction as well as in the area of characteristics of academic librarians.

Statement of the Research Problem

The problem this study investigated was to relate the Herzberg theory that job satisfaction and job dissatisfaction are affected by motivators and hygienes to the theory derived from Nickens and Bauch that motivators and hygienes are perceived differently by different work behavior types. The following questions guided the study:

1. What are the work behavior types of academic librarians in Florida as measured by the Marcus Paul Placement Profile (MPPP)?

2. What are the motivators and hygienes perceived by academic librarians in Florida as reported on the Minnesota Satisfaction Questionnaire (MSQ)?

3. Do factors derived from a factor analysis of the MSQ show characteristics of motivators and hygienes?

4. Do the different work behavior type scores of academic librarians in Florida, as measured by the MPPP, relate differently to the motivator and hygiene scores derived from the MSQ?

Delimitations and Limitations

In answering the preceding questions, the following delimitations were observed:

1. The study was limited to librarians currently employed in professional positions in post-secondary institutions in Florida.

2. The study was limited to librarians holding the Master of Science in Library Science (MLS) or an appropriate equivalent academic degree.

3. The study was limited to librarians with membership in one or more of the following professional organizations: the Association of College and Research Libraries, the American Library Association, or the Florida Library Association.

4. Information about work behavior type was limited to that measured by the Marcus Paul Placement Profile.

5. Information regarding job satisfaction and dissatisfaction was limited to those facets measured by the short-form Minnesota Satisfaction Questionnaire.

In addition, the following limitations were inherent in this study:

1. By returning study forms, academic librarians volunteered to participate in this study. There is no assurance that these volunteers are representative of the total population of academic librarians in Florida or academic librarians in general. Therefore, results may not be generalizable to other populations of academic librarians.

2. Since this study was limited to academic librarians, it is not possible to generalize these findings to other librarians or to other occupational types.

Justification for the Study

According to Moran (1989), in a paper tracing the development of academic libraries from 1939-1989,

> academic libraries have evolved from relatively small, self sufficient institutions to large, multifaceted organizations electronically interconnected and linked in ways not yet envisioned fifty years ago. The librarians who work in these institutions . . . are called upon to have knowledge of processes and to provide services unforeseen in 1939. (p. 25)

However, as the profession of librarianship has matured and the demands upon librarians, particularly those in academic institutions, have become more complicated, requiring higher levels of education and training, 15 professional schools of library science have closed since 1978 (Paris, 1990) and the number of new entrants to the profession is declining. With only 52 institutions now offering graduate training in library science and/or information science and a number of states and large metropolitan areas with no library schools, it is logistically more difficult in the United States to become a librarian than a lawyer (there are 180 law schools) or a physician, as students can select from 142 medical schools (Manley, 1991). Some in the profession believe these negative factors can be balanced in part by the more diverse backgrounds of those individuals who do enter the profession and by the advanced levels of educational attainment exhibited by at least a significant minority of those who receive a graduate degree in library science. However, Heim and Moen (1992) state that "in spite of intense recruitment initiatives the library and information profession continues to be one for

which the modal entrant is a white female in her mid-thirties who majored in English, education or history" (p. 102).

The basic studies on the personality of the librarian date back to the period from 1952 to 1961. Only one substantive study has been completed within the last 10 years (David, 1990/1991). Although studies of job satisfaction among librarians abound, some are of negligible value because of simplistic statistical analyses, poorly designed research methods or questionable population samples. Research into the work behavior type of librarians is generally only addressed as a minor factor in studies designed for other purposes.

Of particular interest to the proposed study is the finding reported by Lynch and Verdin (1983) that "new entrants . . . into the profession report some of the lowest levels of [job] satisfaction" (p. 445). They find this troublesome and suggest several possible explanations for the finding, including problems of accommodation to working within an organizational context, difficulty with work-flow demands, and the nature of the "entry-level work for professionals in large research libraries [which] may be more routine and non-professional than librarians expect" (p. 446).

Studies of job announcements for academic library positions reveal increasingly stringent educational requirements including advanced academic degrees, subject specialization and language capability (Creth, 1989). According to Moore (1981), a glut in subject Ph.D.'s and master's degrees led many academic libraries to add either a requirement or a preference for these degrees to job descriptions reasoning that, given the market, they could probably get them. However, the actual duties for available positions as outlined in advertisements are often similar to those listed some years ago. In other words, academic librarians, in particular those new to the profession, may still be assigned routine and sub-professional duties. Those recruited to

the profession may expect that their advanced academic credentials and subject specialization will translate into more professional responsibilities and the lack of a match between expectation and reality may lead to job dissatisfaction or, in extreme cases, to highly trained individuals prematurely leaving the profession. Reporting on a study of librarians 10 years after their graduation, White (1990) wrote: "The graduates . . . report that . . . they thought they knew what their preference for both type of library and type of work was before they enrolled in library school. By the time they graduated, a significant percentage had changed their minds" (p. 61). More importantly, White continues "almost half . . . end up doing something different from what they originally thought they would do" (ibid). Further, in terms of specialized preparation, recent graduates appeared to be selected for first professional positions almost casually, with employers later complaining that new hires did not possess sufficient specialized skills (White and Mott, 1990). Given the ever increasing costs of recruitment and training, it would seem to be in the best interest of academic libraries to attempt to determine what aspects of work will provide satisfaction for librarians or, at a minimum, at least to avoid those aspects that cause dissatisfaction.

According to Geier (1979), people in working situations will exhibit specific qualities and patterns of behaviors. If individuals are provided with information about their particular work behavior styles and are placed into jobs that require and encourage those styles, the opportunity for job satisfaction and success in employment will be increased. In addition, the possibility that an employee may become frustrated and leave a specific job or even a profession may be less if the correct "fit" between employee and employment is made.

With schools of library science closing, recruits to the profession declining and the demand for educated, motivated employees increasing in

academic libraries it appeared that a study combining the theory of work behavior type and the theory of job satisfaction would be of great potential value to the profession. Such a study has not been conducted among librarians in general or among academic librarians in particular. Research in this area could be of use in recruitment for the profession and in the assignment of responsibilities to positions in the profession. Further, this study may add to current knowledge of work behavior type by studying a population that has not previously been studied in this manner.

Definition of Terms

General Terms

Academic librarian refers to a professional librarian currently employed in an academic library in Florida.

Academic library refers to the library of a post-secondary institution (community or junior college, college or university) in Florida.

American Library Association is the major professional organization for librarians in the United States.

Association of College and Research Libraries (ACRL) is a division of the American Library Association with approximately 11,000 members nationwide.

Factors refers to any of the six motivators or eight hygienes descriptive of those job facets which may contribute to job satisfaction or job dissatisfaction (Herzberg et al., 1959).

Florida Library Association is a professional organization in Florida with members representing all types of libraries in the state and all levels of employment in libraries.

Hygienes refers to factors which contribute to an employee's dissatisfaction and are related to the job context portion of work. They

include, for example, company policies, working conditions, supervision and administration and co-worker relationships.

Job content refers to factors such as achievement, advancement, recognition, responsibility and the work itself. When present in a job, they are related to job satisfaction.

Job context refers to factors such as pay, security, supervision, and physical working conditions which, when absent from a job, are linked to job dissatisfaction.

Job dissatisfaction refers to feelings associated with "the built-in drive to avoid pain from the environment, plus all the learned drives which become conditioned to the basic biological needs" (Herzberg, 1966, p. 28).

Job satisfaction is the positive effect derived from those factors which most often contribute to higher needs (Herzberg et al., 1959).

Motivators refers to factors which contribute to employee satisfaction and are related to the job content portion of work. They include, for example, achievement, responsibility and recognition.

Professional librarian refers to an individual holding the master's degree in library science from a program accredited by the American Library Association. That is, "the master's degree is the minimum educational requirement for employment in a professional program" (Robbins, 1990, p. 41).

Marcus Paul Placement Profile Terms

Marcus Paul Placement Profile (MPPP) is an instrument developed by Bauch (1981) and Nickens (1984) which is designed to measure work behavior types. The four types are:

Energizer type (result oriented), a work behavior type which describes an individual who is typically assertive, direct, impatient with detail, interested in getting results and quite creative in the work situation.

Inducer type (people-oriented), a work behavior type which indicates an individual who is sensitive and optimistic and who places more emphasis on interpersonal relations and getting things accomplished within the group rather than on the organization itself.

Concentrator type (technically oriented), a work behavior type which indicates an individual who is a loyal, steady worker and who tends to be patient, systematic, and effective.

Producer type (quality oriented), a work behavior type which indicates an individual who strives for quality, follows guidelines carefully, and supports his/her work and decisions with documentation.

Work behavior type refers to a description and categorizing of an individual's general qualities and predisposing behavior traits as they relate to the work situation and are defined by the Marcus Paul Placement Profile.

Minnesota Satisfaction Questionnaire Terms

Job satisfaction score refers to a participant's score on the Minnesota Satisfaction Questionnaire. The short-form MSQ yields the following three scores, extrinsic, intrinsic and general.

Extrinsic Scale is the job context score on the short-form MSQ determined by summing the individual scores of 6 of the 20 items on the measure.

Intrinsic Scale is the job content score on the short-form MSQ determined by summing the individual scores on 12 of the 20 items on the measure.

General Satisfaction Scale is a score determined by summing the individual scores on all 20 of the items on the short-form MSQ.

Minnesota Satisfaction Questionnaire (MSQ), or the short-form MSQ, is a 20-item measure consisting of statements about various aspects of a person's job which an individual is asked to rate on a 5-point scale with responses ranging from "not satisfied" through "extremely satisfied." The scales utilize descriptors derived from the work of Herzberg.

Organization of the Study

The remainder of the study is organized into four chapters. A review of the literature is presented in Chapter II. Included are major areas of research and related literature relevant to job satisfaction and job dissatisfaction, and the development of the theory of work behavior type. The chapter concludes with a review of the literature on these topics as they relate to academic librarians.

The design and methodology of the study are presented in Chapter III. Research design, population, data collection, instrumentation and procedures are addressed.

Chapter IV contains the results and analysis of the data collected from the Marcus Paul Placement Profile, the Minnesota Satisfaction Questionnaire and the demographic and career information questions. The data specific to each question presented in the study are addressed and discussed.

Chapter V includes a summary of the study, conclusions about the findings, and recommendations for additional research.

CHAPTER II
REVIEW OF RELATED LITERATURE

Organization of the Chapter

This review covers three areas. The first section presents an overview of research on job satisfaction. The second section reviews the research and theories leading to the development of work behavior types and the Marcus Paul Placement Profile. The final section provides a synthesis of the research on job satisfaction, personality type and work behavior and career development as related to academic librarians.

Job Satisfaction

Definition

According to Chwe (1976), more than 5,000 articles, books, and dissertations were written on the subject of job satisfaction from the 1930s to the mid-1970s. As the effective management of human resources is one of the most important tasks for any organization, it is not surprising to find such a large and varied volume of research focused on this subject. If the activities of employees are to contribute to the realization of organizational goals, successful management, including direction and motivation, is important. Thus, research on employees in a variety of work situations has been conducted for almost a century. A particularly significant topic of personnel research involves the job satisfaction of employees.

There is no universally accepted definition of job satisfaction (Locke, 1976). However, Locke (1969) earlier proposed a possible definition, stating

job satisfaction is the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values, and job dissatisfaction is the unpleasurable emotional state resulting from the appraisal of one's job values or as entailing disvalues. (p. 316)

Most researchers determine their own operational definition (Gruneberg, 1979). For example, Wanous and Lawler (1972) list nine different operational definitions, each related to a different theoretical basis of job satisfaction including need fulfillment, equity and work values while Bockman (1971) described the traditional theory of job satisfaction as being the total body of feeling an individual has about his or her job. Porter and Steers (1973) defined job satisfaction as the "sum total of an individual's met expectations on the job" (p. 167) while Smith, Kendall, and Hulin (1969) defined the concept as "feelings or affective responses to facets of the situation" (p. 6). According to O'Reilly and Roberts (1975), individual traits referred to as "personality" are obvious antecedents to job satisfaction. A particularly relevant definition for this study is that of Davis (1977) because he related the degree of job satisfaction to the fit between an employee and a particular job. Davis stated that

> job satisfaction is the favorableness or unfavorableness with which employees view their work. It results when there is a fit between job characteristics and the wants of employees. It expresses the amount of congruence between one's expectation of the job and the rewards that the job provides. (p. 74)

It is important to distinguish the term job satisfaction from morale. Job satisfaction is an individual state of mind and refers to the response of an individual to the job whereas morale is the feeling of commitment to and oneness with a group and group well-being (Blum, 1956; Gruneberg, 1979). It is also necessary to distinguish the term motivation from job satisfaction. The terms are often used interchangeably and they are closely linked but they are not synonymous (Byars & Rue, 1979). The factors which determine job

satisfaction and those that determine motivation are different; thus, "satisfaction reflects an employee's attitude toward the job while motivation refers to a drive to perform" (Glenn, 1982/1983, p. 62).

Historical Overview

Interest in job satisfaction and the quality of work life is not a recent phenomenon. Davis (1971) asserted concern with job satisfaction was evident in industry over 175 years ago. Initially, psychologists studied job satisfaction as a factor in increasing the productivity of workers. Frederick Taylor (1911) introduced the principles of scientific management to work settings by applying the results of time and motion studies. He simplified and compartmentalized work tasks in an effort to increase efficiency and, correspondingly, the productivity of workers. Taylor also called attention to the importance of the human element as a factor in job success. According to Nauratil (1989), "Taylorism," or scientific management, was widely accepted in libraries in the early years of the 20th century. The philosophy was advocated by Melvil Dewey who even urged librarians to "keep a watch or clock hanging before you" (p. 44).

In 1927, Elton Mayo (1933) began a series of experiments which stimulated the development of the Human Relations School in organizational psychology and occupational sociology. The studies, named for the Hawthorne plant of the Western Electric Company in Chicago, involved the manipulation of various physical conditions, such as light, temperature control, rest, work hours and payment systems in an attempt to improve productivity. Mayo found that productivity increased in unexpected ways. Even with adverse physical conditions, for example, productivity was observed to increase. Mayo concluded that human relationships were more important to workers, especially the feelings of workers toward each other

and attention from supervisors (Glasgow, 1982). The studies, which ended in 1932, were later speculated to be invalid (Gruneberg, 1979). However, they are of significant historical interest because of the importance of the Human Relations School in psychological research. According to this body of thought, "satisfied workers are more productive than dissatisfied workers, and job satisfaction is influenced by . . . human relationships . . . within work organizations" (Glasgow, 1982, p. 5).

Two important early studies of job satisfaction took place during the 1930s. Kornhauser and Sharp (1932) studied a group of female factory workers and isolated "character of supervision" as the major factor related to job dissatisfaction. Further, they found that negative feelings caused by poor supervision influenced other areas. Another early study of job satisfaction involved 500 teachers who were questioned about different aspects of their jobs. Hoppock (1935) analyzed the 100 most satisfied and the 100 least satisfied responses and concluded that job satisfaction consisted of many factors, the presence of which in a work situation led to satisfaction whereas their absence led to job dissatisfaction. Based on his research, he formulated a theory suggesting that satisfaction and dissatisfaction form a continuum.

Following World War II, interest in job satisfaction research developed into an interdisciplinary approach with some emphasis on problem-solving and the relationship between employee satisfaction and performance (Brayfield & Crockett, 1955).

In 1957, Frederick Herzberg and his associates published an important review of the literature of job satisfaction research. Herzberg et al., challenged Hoppock's view which was still in vogue that job satisfaction is a continuous variable. Rather, a two-factor theory with the causes of job satisfaction distinct from the causes of job dissatisfaction was proposed. Job satisfaction research became increasingly sophisticated during the 1960s as survey

methodology was improved. With a variety of additional related issues such as the psychological characteristics of workers under investigation, the decade of the 1970s saw job satisfaction research well established as an interdisciplinary field. Many major theories of job satisfaction were developed between the 1950s and the early 1980s. "They include need-hierarchy theory, two-factor theory, need-fulfillment theory, value-fulfillment theory, equity theory, group theory, and perception theory" (Glasgow, 1982, p. 9). These theories have been classified as either content or process theories (Campbell, Dunnette, Lawler, & Weik, 1970). Content theorists were interested in determining those factors related to the motivation of an individual to work while process theorists attempted "to explain job satisfaction in terms of the interaction between the individual's needs and what the job actually offers" (Wellstood, 1984/1985, p. 15).

Abraham Maslow's (1943) general theory of motivation, the need-hierarchy theory, is a major content theory and has been used as a frame of reference for many job satisfaction studies. Maslow stated that man has five basic categories of needs arranged in an ascending hierarchy of five levels. Lower-order needs were (a) physiological needs, (b) safety and security needs, and (c) social (affection) needs. Higher-order needs were (d) the need for esteem, including the need for mastery and achievement along with recognition and approval and (e) the need for self-actualization, that is, the desire to be all one is capable of being. Although lower-order needs had to be met before higher-order needs assumed importance, the satisfaction of a need removed it as a motivator. (Figure 1)
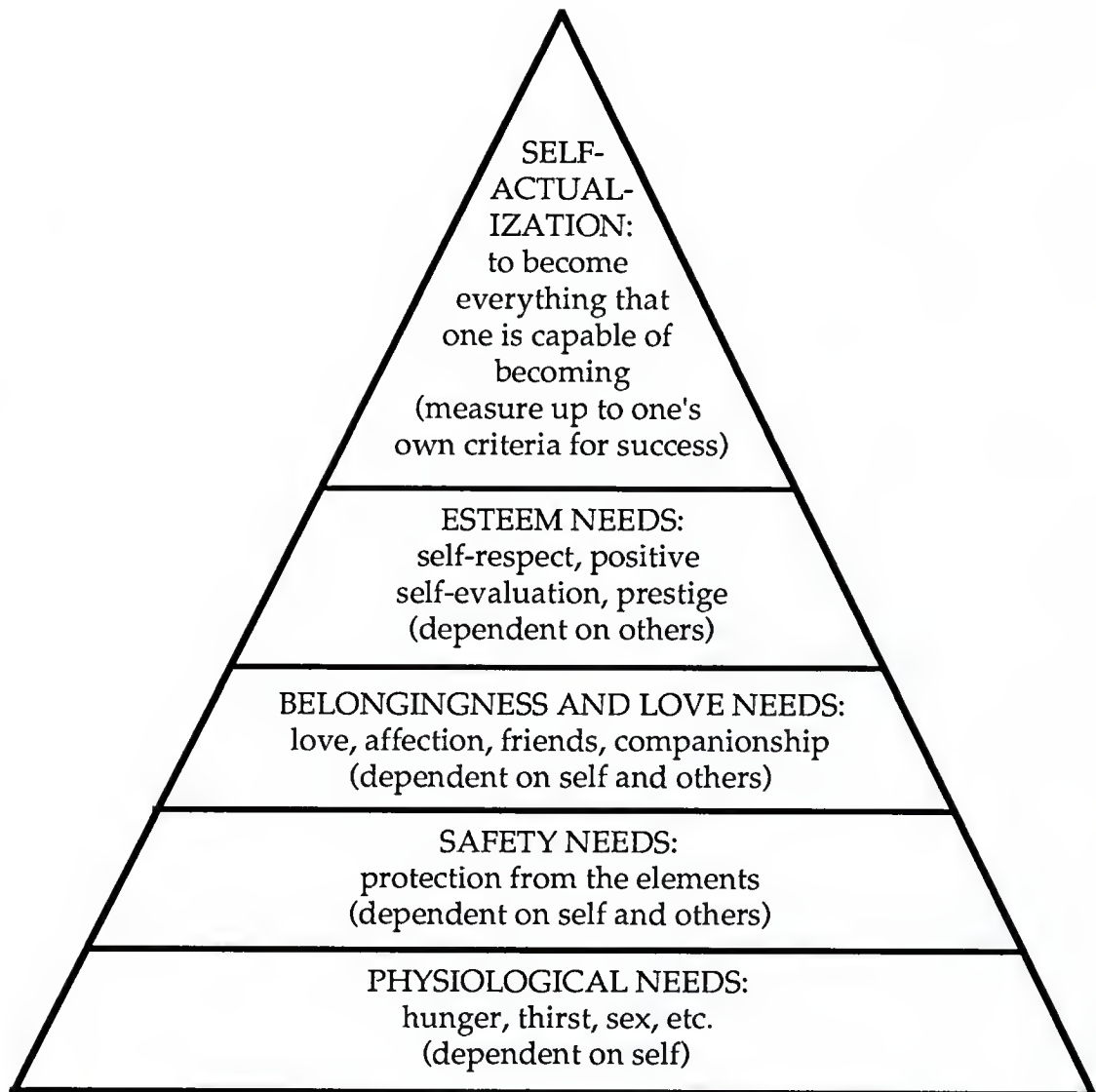
Figure 1. Maslow's Hierarchy of Needs

Note. Adapted from An application of the refomulated (Herzberg) theory of job satisfaction to selected administrative affairs staff in the Florida State University System, by A. P. Kozal, 1979.

Maslow's theory concerned the relationship of each need level to the state of satisfaction or dissatisfaction for other need levels. For example, if a lower-level need is satisfied, an individual's interest will switch to the next higher-level need; that is, when basic physiological needs are satisfied, safety needs will become a greater concern. Man's ultimate goal is self-actualization

or the ability to become all one is capable of becoming (Maslow, 1943). Thus, the need-hierarchy theory is based on the idea that lower-order needs are never totally satisfied. Deprivation of satisfaction over time causes the needs to evolve into strong motivators. In contrast, higher-order needs must be continuously sought and are seldom completely satisfied. In an article entitled "The Herzberg Controversy," Bockman (1971) discussed the traditional theory or the total body of feeling an individual has about a job, which includes both job-related and environment-related factors. The feeling moves along a single continuum between satisfaction and dissatisfaction. Neutrality, a condition in which an individual is neither satisfied or dissatisfied, is mid-way on the continuum. (Figure 2)

Job Factors

Negative or Absent   Positive or Present

|————————————————|————————————————|

Dissatisfaction   Neutrality   Satisfaction
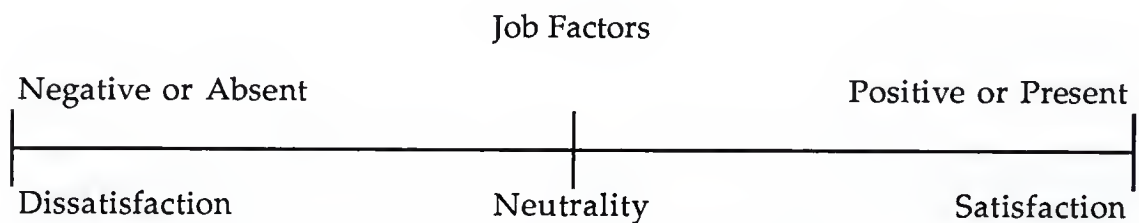
Figure 2. Bockman's Traditional Model of Job Satisfaction

Deprivation of pay, recognition, or some other factor will move an individual toward the negative end. The improvement of a factor, such as salary, will cause positive movement. Finally, if the presence of a variable in the work situation leads to job satisfaction, one could logically expect that its absence would lead to job dissatisfaction.

Herzberg's Two-Factor Theory of Job Satisfaction

In their book entitled The Motivation to Work, Herzberg, Mausner, & Snyderman (1959) developed the concept that certain factors are more frequently associated with feelings of satisfaction while other factors are

associated with feelings of dissatisfaction. Herzberg and his associates, employing the critical incident method developed by Flanagan (1954), tested the concept on 203 male engineers and accountants in Pittsburgh, Pennsylvania. From these data, Herzberg et al. (1959) developed the theory of job attitudes called the Two-Factor Theory or the Motivator-Hygiene Theory. Since 1959, the Two-Factor Theory has been used extensively in job satisfaction research. Its emphasis on the contribution of psychological growth to job satisfaction and the recognition that opportunities for psychological growth can be found within work itself are of particular importance in the development of general job satisfaction theory. The Two-Factor Theory states that motivation does not exist on a continuum, as postulated by Hoppock, but consists of two continua, job satisfiers or motivators, and job dissatisfiers, or hygienes. (Figure 3)

Satisfaction	(Satisfiers/ Motivators)	No Satisfaction

No Dissatisfaction	(Dissatisfiers/ Hygienes)	Dissatisfaction
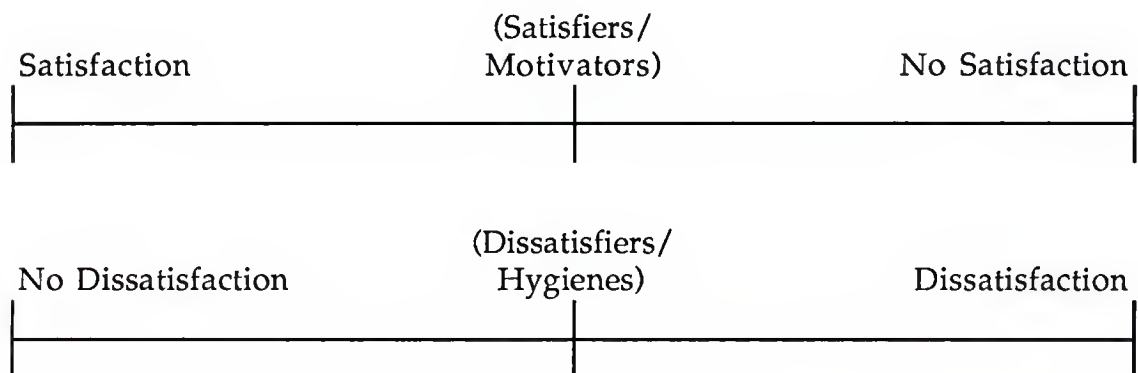
Figure 3. Herzberg's Two-Factor Attitude Model

Cummings and El Salmi (1968) divided the Herzberg theory into the following concepts:

1. Job satisfaction and job dissatisfaction are unrelated and are not opposite one another on a single bipolar continuum. Instead, they are separate and distinct continua (See Figure 3 for Herzberg's Two-Factor Attitude Model).

2. The opposite of job satisfaction is not job dissatisfaction; it is <u>no</u> job satisfaction. Conversely, the opposite of job dissatisfaction is not job satisfaction, it is <u>no</u> job dissatisfaction.

3. Job satisfaction is determined by the feeling the employee has towards the <u>content</u> of his job or job environment. Content job factors are classified as: achievement, recognition, advancement, responsibility and work itself. These factors were mentioned most often by those interviewed as factors that gave the most satisfaction.

4. Job dissatisfaction is determined by the feelings the individual has toward the <u>context</u> of his job. Context factors include: company policy and administration, technical aspects of supervision, interpersonal relations with supervision, salary and working conditions. These factors were mentioned most often as causing the employee the most dissatisfaction. (Cummings & El Salmi, 1968, p. 133)

Motivators such as achievement, recognition, advancement, responsibility and interest in the work itself were intrinsic factors which, when present in a job, acted as satisfiers with a positive effect on employee productivity. Of the motivators, achievement was the strongest, followed by recognition. The motivators corresponded to Maslow's higher-order needs.

The six motivators or satisfiers as defined by Herzberg et al. (1959) and Herzberg (1966) follow:

1. <u>Advancement</u> refers to actual changes in the status or position of an individual in an organization. It also includes the probability of or hope of advancement.

2. <u>Achievement</u> refers to all events that lead toward realization of the worker's personal objectives (successful completion of a job, finding a solution to a problem, or seeing the results of one's own work). The definition also includes the opposite—failure to achieve.

3. <u>Recognition</u> comprises acts of praise and/or notice (positive recognition), or blame (negative recognition), toward the employee from the work environment (a peer, professional colleague, supervisor, or the general public).

4. <u>Work itself</u> denotes the actual doing of the job or the tasks of the job as a source of good or bad feelings. It also refers to the opportunity to complete an assigned unit of work.

5. Responsibility relates to authority and includes those sequences of events in which the worker mentioned satisfaction derived from being given responsibility for his own work or the work of others, or being given new responsibility. Also included were those incidents in which there was a loss of satisfaction from lack of responsibility.

6. Possibility of Growth refers to growth in specific skill areas as well as growth in status which would enable the individual to move onward and upward in a company. This factor also encompasses the lack of opportunity for growth. (Herzberg, 1966, pp. 193-198)

Hygiene factors included pay, security, supervision and physical working conditions and corresponded to Maslow's lower-order needs. They were extrinsic to the job and, when absent, linked to dissatisfaction. Herzberg and his associates made it very clear, however "that the presence of a hygiene factor doesn't automatically produce job satisfaction and the absence of a motivator doesn't necessarily lead to dissatisfaction" (Wellstood, 1984/1985, p. 16).

The eight hygienes or dissatisfiers as defined by Herzberg (1966) are as follows:

1. Salary includes all sequences of events in which some type of compensation (wage or salary increase) plays a role. Unfulfilled expectations of a salary increase are also included in this category.

2. Working conditions refers to the physical conditions of work and the facilities available for performing the work (adequate tools, space, lighting and ventilation).

3. Supervision-technical includes those events in which the competence or incompetence of the supervisor is the critical factor. Statements concerning a supervisor's willingness or unwillingness to delegate responsibility or his willingness or unwillingness to instruct are included.

4. Interpersonal relations involve actual verbalization about the characteristics of the interaction between the worker and another individual. Three categories of interpersonal relations are specified: those involving subordinates, those involving peers and those concerning supervisors.

5. <u>Company policy and administration</u> includes factors in which some overall aspect of the company is involved. Herzberg (1959) identified two types: the first concerns the adequacy or inadequacy of a company's organization and management; the second involves the positive or negative effects of the company's personnel policies.

6. <u>Status</u> refers to the sequence of events in which the respondent specifically mentioned that a change in status affected his or her feelings about the job (attaining a larger office, use of a company car or having a personal secretary).

7. <u>Personal life</u> involves situations in which some aspect of the job affects the individual's personal life in such a manner that the respondent's feelings about his job are affected (a family-opposed job transfer).

8. <u>Job security</u> refers to signs of job security (continued employment, tenure and financial safeguards). Feelings alone of security or insecurity were not accepted. (Herzberg, 1966, pp. 193-198)

Herzberg stated that there could be situations in which a motivator could act as a hygiene and vice-versa (Herzberg et al., 1959). After 12 studies involving 1,685 employees, however, Herzberg (1966) concluded that 81 percent of all factors related to job satisfaction were motivators while 69 percent of all factors related to job dissatisfaction were hygienes.

Salary was difficult to classify in the original study as it appeared in reports labeled low satisfaction as well as in reports of high satisfaction. Researchers concluded that the former reports were related to employees who felt they deserved higher pay or that increases were not based on performance while the latter were from employees who felt increases were based on performance and that their own salaries were fair (Herzberg et al., 1959).

Herzberg's theory has been very popular. Since first published, numerous studies have been conducted with every level of worker, supervisor and manager in this and other countries (Burr, 1980/1981). There has been widespread support for the theory but it has also been sharply criticized.

Burr (1980/1981) listed 13 studies conducted over a 10-year period in the field of education alone. Between 1982 and 1991, at least 56 dissertations have dealt to some extent with Herzberg's theory. Of these, approximately 15 were related to higher education faculty or staff. Only three were related to librarians (Dahlstrom, 1982; Hamshari, 1985/1986; Timmons, 1991).

Initially, criticism of Herzberg's theory focused on the narrow range of jobs investigated, the absence of reliability and validity data, the lack of a measure for overall job satisfaction and the use of only one job attitude measure for overall job satisfaction (Burr, 1980/1981). Although replication studies rendered most of these criticisms moot (Herzberg et al, 1959), other critics claimed that the "theory is bound by its methodology; that only one method, the critical incident method, could provide empirical support for [it]" (Burr, 1980/1981, p. 38). Herzberg refuted this criticism by stating that "the fact that another method of testing motivation-hygiene theory has not supported it is meaningless unless it can be demonstrated that such a method is valid and appropriate. One cannot logically employ . . . a typing skill test to measure IQ and use the results to evaluate a theory of intellectual development" (Herzberg, 1976, p. 246).

In Work and Motivation, Vroom (1964) wrote that the results of the critical-incident method were due to defensive processes within the individuals interviewed. Further, he criticized the methods used as neither correlational nor experimental.

Although there has been strong reaction to Herzberg's Two-Factor Theory, it has led to the analysis of specific work characteristics in studies of job satisfaction as well as increased awareness of the value of examining job satisfaction (Gruneberg, 1979).

Measuring Job Satisfaction

Typically, job satisfaction has been measured by an objective, a descriptive or a projective survey. Objective surveys generally contain questions with pre-determined responses while descriptive surveys are more subjective, allowing for unstructured replies through open-ended questions. Projective surveys are devised by psychologists or psychiatrists to assess mental health and are not normally used in a work setting (Glenn, 1982/1983; Wellstood, 1984/1985). The critical incident technique used by Herzberg was a form of descriptive survey. Thomas (1977), Kozal (1979), and Burr (1980/1981) used modified versions of the technique in their studies of community college, college, and university administrators and staff members. Glenn (1982/1983) and Wellstood (1984/1985) both reported the lack of many standardized measures of job satisfaction and selected the Job Descriptive Index (JDI) to measure job satisfaction and dissatisfaction for their studies of vocational education administrators and medical technologists, respectively. Olson (1988/1990) used the Minnesota Satisfaction Questionnaire (MSQ) in his study of college placement officers.

In a comparison of the JDI and the MSQ, Robert Guion wrote in The Eighth Mental Measurements Yearbook that both were the result of research in the 1960s, had an underlying rationale, provided reliable scores, showed evidence of construct validity and were extensively normed (p. 1680). Campbell et al., (1970), in reviewing the JDI, stated that "nowhere do [the authors] mention . . . Herzberg's two-factor theory and the notion of intrinsic vs. extrinsic factors. It would have been interesting to see how they relate their taxonomy to Herzberg's" (p. 540). Guion (1978), in evaluating the MSQ, wrote that it "gives reasonably reliable, valid, well-normed indications of general satisfaction at work and of 20 aspects of that satisfaction, collapsible into intrinsic and extrinsic components" (p. 1679).

The MSQ is one of several measures developed in conjunction with the Minnesota Studies in Vocational Rehabilitation or, as they are better known, the Work Adjustment Project. The studies began in 1957 with two objectives,

> the development of diagnostic tools for assessing the work adjustment 'potential' of applicants for vocational rehabilitation, and the evaluation of work adjustment outcomes. These primary goals are embodied in . . . the Theory of Work Adjustment [which] uses the correspondence or lack of it between the work personality and the work environment as the principal reason or explanation for observed work adjustment outcomes (satisfactoriness, satisfaction, and tenure). . . . Work adjustment is predicted by matching an individual's work personality with work environments. (Weiss, Davis, England & Lofquist, 1967, p. v)

The MSQ is a paper and pencil inventory. It is designed to measure an employee's satisfaction with his or her job. The MSQ provides more specific information on the aspects of job satisfaction than do more general measures. It is available in both long and short form and is suitable for distribution through the mail, as it is self-administering with directions on the first page. A detailed description of the MSQ is provided in Chapter III.

D'Elia (1975; 1979) was the first investigator to use the MSQ to measure the job satisfaction of librarians. Chrisman (1975), Chwe (1976; 1978), and Rockman (1984; 1985/1986) also used it, with D'Elia and Rockman selecting the short form while Chwe used the long form. Chwe felt strongly that the short form should be used for subjects with high educational levels, such as librarians (Chwe, 1976, p. 50). The MSQ is appropriate for use with individuals who can read at the fifth grade level or higher. The 100-item long-form MSQ is quite repetitious. The short-form MSQ uses the same response categories as the 1977 long form and provides satisfactory data. The MSQ short-form was selected for this study.

Work Behavior Type

Definition

Neff (1969) describes adult work behavior as "the complex product of a long series of learned and habitual styles of perceiving and coping with demands of the environment (p. 72). That is, an individual's coping behaviors consolidate to form a particular work style.

Industrial Psychology

The field of industrial psychology developed specifically to explore the behaviors of people in the work environment. Researchers claimed that work behavior is a distinctive area of human behavior which requires separate theories to explain the behavior of people at work (Neff, 1969; Wellstood, 1984/1985). Historically, industrial psychologists have viewed entry into a field from the organization's perspective rather than from that of the individual. Although "from an organizational standpoint, questions concerning the matching of a job candidate's abilities to organizational job requirements [are] more important than the individual's perspective . . . matching individuals to jobs that are right for them is important" (Wellstood, 1984/1985, p. 43).

Recruitment and training costs are a practical reason to be aware of the match between organization and individual. "When an employee leaves the organization, a drain is placed on the recruiting/training budget, and there is much loss of time and productivity" (Nickens, 1984, p. 1). Further, a "job-employee mismatch" causes both employee and administrator to experience failure. Merrill and Stimpson (1979) wrote of the "implied assumption" that a job match will work for both the employee and the organization and the "pain [that] lingers to shadow future recruiting experiences for both" when it does not (p. 14). They further report that at least 60 percent of newly hired

personnel do not meet organizational standards and, of those who survive the first year, almost 44 percent leave during the second year. This is both an enormous financial drain for the organization and an emotional and financial problem for the individual.

Although the majority of employers state that their human resources are their most important asset, organizations typically do not substantiate this claim (Jelinik, 1979). She writes that "employees may be used ineffectively in the sense that their existing skills, knowledge, and aptitudes are poorly matched with the requirements of their jobs . . . ; the abilities . . . of employees also are often underutilized in terms of what they are expected to do in their jobs" (p. 287). Jelinik further states that "even the most sophisticated organizations . . . are relative novices when it comes to the proper development and utilization of human beings" (ibid).

Evolution of Work Behavior Types

The study of work behavior traits and types as they are understood today began with the work of William Moulton Marston, a psychologist and scientist who published Emotions of Normal People in 1928. Marston built his early theories on the work of the German psychologist Wundt, who established the first official psychology laboratory in 1879. He is considered the founder of experimental psychology because of his research with nerve, muscle and emotional responses (Olson, 1988/1990). Wundt departed from the view, then current, that pleasantness and unpleasantness are the only two emotions and proposed in addition four other emotions: excitement and depression, and tension and relaxation (Marston, 1928). Marston spent many years building on these original ideas and, through scientific research, began to perfect his own theories.

Marston also reviewed the work of C. G. Jung who, in his book, Psychological Types, wrote about the clusters of characteristics and the "collective unconscious" that helps to mold the personality and behavior of an individual. Jung emphasized that people choose a dominant attitude toward life: introversion, which is an orientation toward inner processes, or extroversion, which is an orientation toward the external world of people and events. He also viewed the human personality in terms of polarities: conscious values and unconscious values, sublimation and repression, rational and irrational functions and the previously mentioned introversion and extroversion. Finally, Jung wrote that each person has only four ways in which to orient toward the world: two "rational" functions of thinking (recognizing meaning) and feeling (experiencing pleasure or pain) and two "irrational" functions of sensation or perceiving by means of unconscious and subliminal processes (Jung, 1923).

Through his review of the work of Wundt and Jung and based on research into motation (emotions as measured by motor consciousness, nerve, and muscle response), Marston (1927; 1928) identified four primary emotions which he termed dominance, compliance, inducement and submission. He defined a primary emotion as "an emotion which contained the maximal amount of alliance, antagonism, [and] superiority of strength of the motor self in respect to the motor stimulus" (Marston, 1928, p. 106).

Marston (1927) then defined dominance as a "central release of additional motor energy directed toward dominating obstacles to a reaction already in progress" (p. 349). He continued, it is "an increase of the self to overcome an opponent, . . . a feeling of an outrush of energy to remove opposition" (Marston, 1928, p. 140).

Aggressive behavior and a desire to win are not undesirable and can be developed in ways that are acceptable. Survival as a species, athletic

triumphs, the creation of art or music and the primary emotion of infants in their first three years are all examples of dominant behavior or emotion. (Wellstood, 1984/1985; Nickens, 1984). However, if this emotion is uncontrolled, it may be viewed negatively. In a person with a position of authority, such behavior may cause dissatisfaction or unhappiness in subordinates.

Compliance, according to Marston (1927), ranks as a basic emotional response. "Compliance means control (but not inhibition) of tonic motor discharge reinforcement by a phasic reflex" (p. 350). Marston (1928) further defined compliance as a

> decrease of the motor self to let an opponent move the organism as if by will; either passively, by making the self give up some dominant activity, or actively, by compelling the organism to move in some anti-dominant way . . . [It is a] feeling of acceptance of an object or force as inevitably just what it is, followed by self-yielding sufficient to bring about harmonious readjustment of self to object. (p. 183)

Compliance may occur because of sudden change, fear or voluntary surrender. An individual may believe or come to recognize that forces of stimuli outside oneself are stronger than internal forces. Intense conditioning, or repeated environmental stimuli, may lead to compliance just as moderate repetitious punishment may produce compliance while a harsh occasional punishment may not (Nickens, 1984).

Marston (1927) stated that submission was a "voluntary yielding to whatever stimuli may be imposed. It does not seem to overwhelm, or dominate the subject organism by force, but rather brings about a spontaneous lessening of the subject's resistance to it until the subject has become less strong than the stimulus" (pp. 356-357). It can also be understood as the introspective meaning of mutual warmth between the person who submits and the one submitted to (Marston, 1928). "In general behavior, submission

takes the form of consideration, service to others, selflessness, accommodation and generosity" (Wellstood, 1984/1985, p. 34).

Inducement can be seen by observing the behavior of individuals who gain voluntary submission from others. Marston's 1928 definition states that

> inducement consists of an increase of the self, and making of the self more completely allied with the stimulus person, for the purpose of establishing control over that person's behavior. . . . The definite characteristic of inducement is a feeling that is utterly necessary to win the voluntary submission of another person to do what the subject says. This feeling [is] increasingly pleasant in proportion as the other person submits. (p. 273)

Inducement may involve "persuasion, personal charm, friendliness, and frequently seduction or subtle manipulation . . . . Every positive relationship contains some inducement behavior, for there must be inducement and submission for alliance to occur" (Nickens, 1984, p. 7). In modern culture, advertising is an example of inducement.

Marston's Two-Axis Model

Marston illustrated the four emotions as forming a two-axis model with dominance and compliance constituting one axis and inducement and submission constituting the second axis. Individuals attempt to maintain a balance between the extremes of each axis and the point of balance varies which, according to Marston, explains differences in behavioral tendencies.

In Marston's model, as seen in Figure 4, dominance and compliance form one axis. Inducement and submission form the second axis. The two emotions of each pair are located at opposite ends of a continuum and are separated by the degree of response, which may be active or passive, as well as an outward or inward orientation.
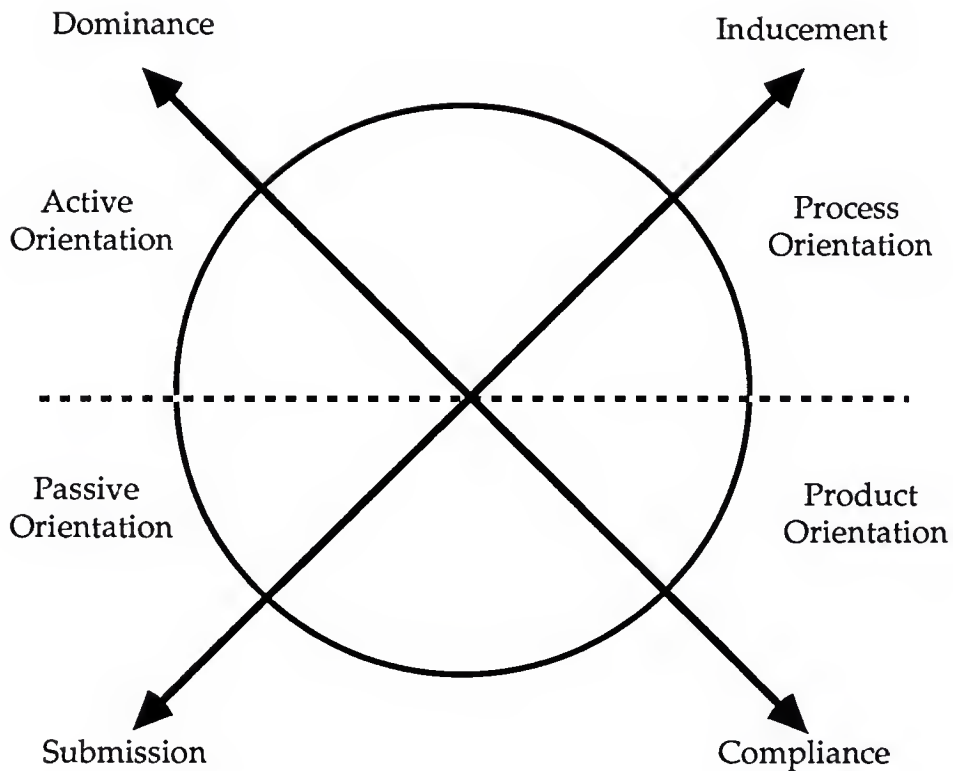
Figure 4. Marston's Two-Axis Model

Note. From The Marcus Paul Placement Profile and Work Behavior Analysis by J. M. Nickens, 1984.

The two axes are divided horizontally. The active component and outward orientation are seen in the upper dimensions of dominance and inducement while the lower dimension includes the inward orientation and the passive component made up of submission and compliance.

Geier (1979) both updated and clarified some of Marston's terminology. He defined the four emotions as follows:

Dominance is an active positive movement in an antagonistic environment.

Compliance is a cautious tentative response designed to reduce antagonistic factors in an unfavorable environment.

<u>Submission</u> is passive aggressiveness in a favorable environment.

<u>Inducement</u> is active positive movement in a favorable environment. (p. 2)

He also added the idea that persons whose traits cluster predominantly in the upper dimension of the model have a process orientation. These individuals "want to shape the environment according to their particular view. These are individuals who continually test and push the limits" (ibid, p. 3). Those people whose traits cluster in the lower dimension are more product-oriented and "focus on the how and why" (ibid).

The dimensions in Marston's Two-Axis Model indicate behavioral tendencies. The behavior traits of an individual tend to cluster around one dimension more than the others but each individual exhibits some or all of the types of behavior to at least some degree.

The inability of Marston's model to explain the simultaneous presence of feelings of dominance and compliance and of inducement and submission has been cited as the major limitation of the model. Interpretations that factor in environmental considerations as influences are, however, worth consideration. According to Nickens (1984), "people will display work behavior that is not normal for them when the job induces pressures beyond the normal. Thus, this is not the normal behavior . . . and . . . is beyond the theory. However, behaving differently under different circumstances is normal" (p. 9).

<u>Clustered Traits</u>

Marston also identified clusters of traits associated with each of the four primary emotions. These clusters, shown in Figure 5, helped shape Marston's data and theories into a model which could be used in understanding normal behavior (Wellstood, 1984/1985). Factor analysis by subsequent

researchers (Allport & Odbert, 1936; Cattell, 1946; Geier, 1967, 1979, 1980) sub-stantiated trait clusters, with Geier (1980) reporting that "many of Marston's suggested adjectives for each of his four emotions had correlated together at least R = .60" (p. 14). Marston's model has a non-pathological orientation with four categories supported by cluster traits. This is in contrast to other theories which are pathologically oriented and contain multiple clusters (Wellstood, 1984/1985; Nickens, 1984). Marston's non-pathological orientation makes the model particularly appropriate for work behavior analysis as work is a normal activity for adults.

Geier (1980) stated that "one must consider semantic change, or change of meaning. Then, too, some words acquire negative connotations over time, or with much repetition have lost their original vividness and become worn and faded" (p. 12). Accordingly, he built on the work of Marston (1927; 1928) and Alpert and Odbert (1936) in developing an updated list of traits. On the whole, most traits were listed as adjectives which made them easier to review and use in additional research. Geier's list of clustered traits is presented in Figure 6.

Marcus Paul Placement Profile

Building theoretically on Marston's model and Geier's research, Bauch (1981) and Nickens (1984) developed the Marcus Paul Placement Profile (MPPP). The instrument was designed to measure work behavior type for the purpose of matching individuals and jobs. Counseling, career development, job recruitment and placement, training, team building, job enhancement and selection were all possible uses for the MPPP (Bauch, 1981). The MPPP system incorporates theories of management, career counseling and placement. A particular strength of the instrument is its recognition that

individuals possess a variety of qualities and patterns of behavior in any work situation (Glenn, 1982/1983, p. 94).

Bauch (1981) did not view work behavior traits and types as judgments of work behaviors but rather as terms that could be used to increase the understanding of work behavior, to the benefit of both the organization and the individual. He advocated positive or neutral terminology with specific terms reflective of work behaviors. In particular, he replaced some of Marston's and Geier's terms which had negative connotations with positive or neutral terms applicable to a work environment. For example, Geier changed Marston's original categories of dominance, inducement, submission and compliance to dominance, influence, steadiness and compliance while Bauch and Nickens designated the four work behavior types as energizer, inducer, concentrator and producer.

The behaviors that cluster on the dominance dimension are placed under the energizer work behavior type. The term energizer is more positive and also more descriptive of the type as found in a work environment. Marston's inducement and Geier's influence became inducer, a positive and descriptive term for the second work behavior type. The Marcus Paul Placement Profile (MPPP) type, concentrator, is a more positive representation than Marston's submission dimension and a broader description of the type than Geier's term, steadiness, which is only one aspect of the trait. Finally, the more descriptive and more positive term producer replaced compliance. In all four instances, the MPPP labels were changed from adjectives to nouns to indicate a type as opposed to a trait (Bauch, 1981).

The MPPP work behavior traits are listed under each type in Figure 7. The semantic development from Marston's descriptions of primary emotions through Geier's list of traits to the MPPP list can be reviewed through a comparison of Figures 5, 6, and 7.

Dominance	Inducement	Submission	Compliance
aggressiveness	alluring	accommodating	adapting
boldness	appealing	admiration	awe
courage	attraction	"a good child"	caution
dare-deviltry	"attractive personality"	altruism	candor
determination	captivation	benevolence	conforming
egocentricity	charming	considerate	well disciplined
ego-emotion	convincing	docility	empathy
fighting instinct	converting	"being an easy mark"	fear
force of character	"inducing a person"	generosity	"getting down to brass tacks"
fury	leading	gentleness	harmony
high spirit	"making an impression"	good nature	humility
inferiority feeling	"personal magnetism"	"being manageable"	"oneness with nature"
initiative	persuasion	meekness	open mindedness
persistency	seduction	obedience	peace
rage	"selling an idea"	obliging	being a realist
self-assertion	"selling oneself"	slavishness	resignation
self-seeking	"winning a person's confidence"	sweetness	respect
stick-to-itiveness	"winning a person's friendship"	tender heartedness	"swimming with the stream"
stubbornness		"being tractable"	timidity
superiority complex		unselfishness	tolerance
unconquerableness		willing service	weak will
will		willingness	yielding to

Figure 5. Marston's Behavioral Description of the Four Primary Emotions (1928)

Dominance	Influencing (Inducement)*	Steadiness (Submission)*	Compliance
adventurous	admirable	accommodating	accurate
aggressive	affectionate	attentive	adaptable
argumentative	animated	cheerful	adherent
arrogant	attractive	companionable	agreeable
assertive	boastful	confidential	calculating
bold	charming	considerate	calm
brave	companionable	contented	cautious
competitive	confident	controlled	conformist
daring	convincing	deliberate	consistent
decisive	cordial	earnest	contemplative
defiant	energetic	easy mark	cultured
determined	expressive	even-tempered	devout
direct	fervent	friendly	diplomatic
eager	flexible	generous	easily-led
fearless	fluent	gentle	exacting
firm	good mixer	good-natured	fearful
force of character	high-spirited	gracious	fussy
forceful	inspiring	hospitable	God-fearing
inquisitive	jovial	kind	harmonious
inventive	joyful	lenient	humble
irritable	life of the party	loyal	logical
nervy	light-hearted	mild	objective
original	open-minded	moderate	obliging
outspoken	optimistic	modest	peaceful
persistent	persuasive	neighborly	precise
pioneering	playful	nonchalant	receptive
positive	polished	obedient	resigned
rebellious	popular	patient	respectful
restless	prideful	peaceful	soft-spoken
rigorous	proud	possessive	strict
self-reliant	responsive	reliable	systematic
stubborn	self-assured	sentimental	tactful
unconquerable	spirited	sympathetic	timid
vigorous	talkative	trustful	tolerant
will power	trusting	willing	well-disciplined

Figure 6. Geier's Revised List of Traits Which Correspond to the Four Primary Emotions (1980)

Note: * Marston's (1928) original terms.

Energizer (Dominance)* (Dominance)ø	Inducer (Inducement)* (Influencing)ø	Concentrator (Submission)* (Steadiness)ø	Producer (Compliance)* (Compliance)ø
aggressive	attracts people	accepting	accurate
bold	change agent	attentive	agreeable
certain	convincing	caring	careful
competitive	enthusiastic	committed	cautious
decisive	expressive	contented	compliant
demanding	friendly	considerate	conforming
determined	happy	diplomatic	contented
direct	hopeful	disciplined	devoted
dominant	inspiring	easy going	exacting
eager	playful	exacting	follows orders
forceful	personable	loyal	follows procedures
independent	persuader	orderly	governed
leader	popular	patient	logical
new ideas	respected	peaceful	precise
original	seeks new ideas	reasonable	resigned
outspoken	sociable	respectful	respectful
sure	talkative	satisfied	responsible
takes charge	team leader	sharing	systematic thinker
venturesome		steady	
vigorous		tolerant	
		trusting	
		understanding	

Figure 7. Marcus Paul Placement Profile List of Traits (Bauch, 1981)

Note: * Marston's (1928) original terms; ø Geier's (1980) revised list of traits.

The theoretical basis of the MPPP is similar to Herzberg's motivator-hygiene model for job satisfaction. That is, Herzberg recognized that the factors which enhance job satisfaction (the motivators) do not automatically produce dissatisfaction when absent and the factors that induce dissatisfaction (hygienes) do not necessarily produce satisfaction when present. Nickens (1984) viewed the primary behaviors of dominance, submission, compliance and inducement as independent pairs. This does not mean that Nickens denied the existence of strong inverse relationships between the "opposite

pairs" in statistical models. The recognition of trait independence provided a more powerful tool for explaining complex behaviors on an individual basis (Nickens, 1984, p. 13).

A major contribution in work behavior analysis was the automation of the response analysis and reporting. Nickens developed a system in which responses marked on the MPPP response sheet can be entered into a microcomputer, analyzed, and the results printed immediately in a form easily used for discussion. The report can be retained by an individual for future reference and further discussion.

There are 24 sets of forced choice items in the MPPP. In each set, respondents indicate the term most descriptive of their work behavior and the term least descriptive of their work behavior. Work behavior types are then reported as energizers, inducers, concentrators, and producers. The profile includes a narrative description of an individual's strengths and tendencies in a work setting. A more complete description of the administration, analysis and reporting of the MPPP is provided in Chapter III.

Academic Librarians

Personality Studies

A considerable literature exists on the personality of the librarian. Bryan (1952), Douglas (1957) and Rainwater (1965) studied various populations of librarians between 1948 and 1965. All three studies showed the average librarian to be more submissive or deferential than the general population and to possess a set of qualities summarized by the term "endurance." They also showed the librarian to be less affiliative, less dominant, less heterosexual in interests and less aggressive than the normative population. All the studies agreed that the same characteristics applied to both males and females within the total population of librarians.

However, Bryan (1952), who studied public librarians in one of the earliest comprehensive studies of librarian personality, used the Guildford-Martin Inventory of Factors (GAMIN) which has fallen into disuse. It has been criticized for several reasons but especially because of its subjectivity (Agada, 1987). Douglass (1957) sought to determine the extent to which the profession selects members having a characteristic personality pattern. Between 1947 and 1948 he administered a series of measures, using the Minnesota Multiphasic Personality Inventory (MMPI) as his major instrument. This test was designed for use in psychopathological testing and could be inappropriate for understanding normal behavior (Agada, 1987; Fisher, 1988). Rainwater (1965) administered the Edwards Personal Preference Schedule (EPPS) to 94 student librarians. His findings suggested greater tendencies toward nurturance and succorance, as well as low heterosexuality, and conform to the broad groupings of behavior described by Bryan (1952) and Douglas (1957). However, Rainwater's interpretations are now considered questionable (Agada, 1987).

In the decade of the 1960s, Baillie (1961/1962) studied a small sample of 65 librarians and found that although they conformed to "normal" personality patterns, they were aloof, suspicious and wary. McMahon (1967) reported on librarians' lack of leadership potential and noted that "people with certain personality traits are drawn towards librarianship as a career" (p. 2). Morrison (1961), Clayton (1968), and Magrill (1969) produced three doctoral studies related to librarian personality. The Ghiselli Self-Description Inventory was used to study academic librarians (Morrison, 1961). He stated that librarians with dynamic personality traits were needed and that the personality profile of academic librarians was not especially suited to the needs of the modern library. Clayton (1968) administered the California Personality Inventory to entrants to the profession who showed an

orientation to academic librarianship and found the subjects to be disinterested in decision-making and lacking in initiative and assertiveness.

During the 1970s studies reporting the docile nature and passivity of library students were published. The works of Segal (1970), Goodwin (1972), and Plate and Stone (1974) are representative of this research with Segal, in particular, reporting male librarians to be practical, somewhat unfeeling and generally suspicious. Presthaus (1970) and Hamilton (1976) found the librarians they studied to be bureaucratic and resistant to change, both sociological and technological. In a study of 160 full-time librarians, Clift (1976) investigated the personality characteristics of the group, and the accuracy of library patron's stereotype of librarians. Results revealed high needs for achievement, endurance, and order and low needs for exhibition, aggression and change. Males but not females had high needs for nurturance and deference and a low need for autonomy. Both sexes scored high on measures of self-control and personal adjustment. Lee and Hall (1973) employed the Sixteen Personality Questionnaire (16PF) to determine mean differences in selected personality characteristics between a female college norm group and a group of female prospective librarians. In contrast to the occupational stereotype of librarians as rigid, conventional, tense and less stable, the library science students were not found to exhibit these characteristics to any greater degree than the norm group. In addition, the three scales with significant differences (more intelligent, experimenting and self-sufficient) were favorable to the prospective librarians.

Personality studies of librarians and prospective librarians continued throughout the 1980s. Two of these examined specific questions related to behavioral styles of university technical service librarians, compared with public service librarians (Frankie, 1980/1981) and first, second or alternative career academic librarians (Moore, 1981). Frankie (1980/1981) concluded that

"university librarianship constitutes an occupational sub-culture characterized by very distinctive and potentially very dysfunctional values, attitudes and work preferences" (p. 163). She found that the academic librarians studied lacked self-confidence, avoided aggression, were resistant to job challenges, were primarily motivated by extrinsic rewards and showed little inclination toward leadership, assertiveness, social interaction and change. Moore (1981) reported no differences in personality characteristics as related to managerial talent for those who selected librarianship as a first career, those who worked in another field which required graduate training prior to entering librarianship and those who chose it as an alternative career. "Regardless of the route by which a person comes to academic librarianship, it appears that the same type does ultimately come" (p. 146). Moore did find librarians closer to the norm on general personality characteristics than earlier studies had reported. Lemkau (1984) studied the personalities and backgrounds of 54 men (A's) employed in female-dominated professions, including nurse, elementary school teacher and librarian. They were compared with 63 men (S's) employed in sex-typical fields. A's showed lower adherence to traditional sex-role expectations such as household responsibilities and exhibited greater "tender-minded" emotional sensitivity. "There was also evidence that upward-mobility strivings may have contributed to atypical career choices, with A's more frequently being members of social minorities and/or of lower socio-economic background" (p. 110). The data suggest that disadvantaged youth seeking upward mobility may choose female-dominated professions as easier to permeate and are consistent with other research in the area (ibid).

Agada (1984; 1984/1985; 1987) has written extensively on librarian personality, especially on the aspect of assertiveness. In his doctoral dissertation (1984/1985) he compared beginning and graduating library school

students with counterparts in law and liberal arts. Both third-year library and liberal arts students were less assertive than first-year students while law students maintained a comparable degree of assertiveness at both levels. Agada suggested that library education does not enhance student assertion. He recommended that the profession focus on the socialization of students to an appropriate professional demeanor. Webreck's findings (1985/1986) suggested that librarians exhibit introverted and judging personality types. This was consistent with Agada's (1984/1985; 1987) assertion studies. Finally, a study of 500 first-year library school students from eight European countries (Bruyns, 1989) revealed that library schools attracted students who were less technical, less creative, less sports-loving and, possibly, less ambitious when compared with other Higher Vocational Education students. Little difference was found between male and female students. The research indicated "future librarians are still persons who in general are interested in culture and humanities" (p. 58). Further, "the profession . . . attracts students who are, in general, conservative, who do not show a tendency towards taking initiatives, who have an attitude inclining towards rendering services and who, in general, cannot be characterized as having dynamic personalities" (ibid).

In one of the most recent studies available, David (1990/1991) concentrated on librarians working in technological environments. She reported that "all librarians, independent of their sub-specialties, were dominant on Holland's Artistic Type" (p. 164). She also found that none of the groups tested were dominant on Holland's Conventional Type nor were they conservative, as both earlier studies and stereotypical representations of the profession would imply (ibid).

Fisher (1988) analyzed measures used in early studies of librarian personality, including the California Psychological Index (CPI) and, in the case of the CPI, found questions designed to reveal feminine traits to be

"ideological and not a little farcical" (p. 41). For example, replying "true" to the question "I think I would like the work of a librarian" indicates a feminine orientation. In other words, the very job of librarian is considered a feminine activity. Fisher argued strongly that there is doubt in the utility of the entire psychological approach to librarianship. He reviewed several studies and concluded that each attempted to generalize from samples which were frequently very small and used personality tests shown to be largely inappropriate. "No real attempts have been made to link the individual and the social, personality traits are mostly viewed as absolute, existing across all situations" (ibid, p. 45). Agada (1984) also criticized earlier studies of librarian personality for using questionable control groups, limited and/or non-random sampling, use of other career professionals as "norms" and lack of replication.

> Most important, most of the studies used dated multitrait global personality inventories which do not meet current high standards of reliability and validity, failing especially to show a high degree of convergent and discriminant validity. Most of these instruments have a psychopathological basis which is usually inappropriate and inadequate for the understanding of normal behavior. (pp. 38-39)

Fisher (1988) advocated a more sociological approach to this area of study, one which acknowledges the interaction between the individual and the social, and which uses techniques or instruments suitable for varied and normal individuals. "The conflicting results . . . would lead one to believe that libraries like other organizations are populated by staff with varied interests and attributes" (p. 46). Agada (1984) wrote "there is a need for personality studies in librarianship to focus on the behavior-reactions of the personality types in the context of their particular job experiences" (p. 40). Van House (1988), in her study of library science students' choice of career, stated that "more research is needed in career choice generally, on environmental and

personal influencing factors, and on the process of people's decisions to enter librarianship" (p. 173). One additional factor which should be considered is the "strikingly homogeneous demographic characteristics" (Heim and Moen, 1992, p. 95) displayed by library and information science students over the last 30 years. A 1988 study of students in the (then) 54 American Library Association accredited library and information science programs in the United States revealed survey respondents to be overwhelmingly white (93.7 percent) and female (80.9 percent).

Job Satisfaction of Academic Librarians

As previously stated, interest in job satisfaction can be seen in the number of studies related to it. Locke (1969) estimated that more than 4,000 articles on the subject had been published while Chwe (1976) increased that number to 5,000. Of those 5,000, Chwe was able to identify only about 10 studies of job satisfaction in the field of librarianship in the United States (p. 23-27). Additional studies were completed after 1976 including at least eight relevant dissertations.

Frankie (1980/1981) studied university catalog and reference librarians using worker analysis techniques. Lindstrom (1980) compared community college and college/university librarians and found different levels of satisfaction for each area. Swe (1981/1982) compared bibliographers and non-bibliographers in academic research libraries while Hook (1981) concluded that library administrators in academic libraries were significantly more satisfied with higher-level intrinsic aspects of their work than non-administrators. Glasgow (1982) found academic librarians' perceptions of their work, position in the library organization, salary and perceptions of their promotion opportunities to be the variables most useful in predicting job satisfaction. Green (1982) studied library personnel employed in the

University of North Carolina system and investigated the relationship between communication satisfaction and job satisfaction. Hegg (1982/1984) and Rockman (1985/1986) used the MSQ in studies designed to reconcile inconsistent findings regarding job satisfaction and to produce a demographic profile of academic librarians.

As early as 1937 the twin issues of job satisfaction and work behavior type of librarians were addressed in contributions to a symposium entitled "Square Pegs in Square Holes—Bringing Together Talent and Opportunity in the Library Profession." In particular, deficiencies in staff management techniques, monotonous and routine work with little opportunity for creativity, lack of professional development opportunities, limited promotions, inadequate salaries (Nourse, 1937) and lack of clear job specifications and classifications (Timmerman, 1937) were described as factors related to dissatisfaction. The issues of salary and advancement opportunities were studied again by Hoage (1950) who investigated the reasons for resignations in two large university libraries. Salary and advancement were cited most frequently by the respondents, after marriage or following husband. Herrick (1950) found these same issues of importance in her study of the morale of college librarians although proper equipment, physical working environment and relationship with other employees were all ranked as "essential" or "important" slightly more frequently.

A number of studies related to the job satisfaction of librarians have appeared in the past 25 years. Vaughn (1972/1973) found the concept of multidimensional job satisfaction to be an important research concept useful in exploring environmental and behavioral features of the work setting of one university library with work, pay, promotion and supervision emerging as key parameters in the analysis of data. A second study (Vaughn & Dunn, 1974) expanded the concept to six university libraries and emphasized again

the multidimensional nature of job satisfaction, in addition to the causal influence of managerial performance upon employee productivity and satisfaction. Miniter (1975/1976) found women to be generally more satisfied in their work than men, Scammel and Stead (1980) reported relatively constant levels of job satisfaction across different age and tenure categories and Limpiyasrisakul (1980/1981) identified involving librarians in decision-making processes as a factor in improving job satisfaction. Lindstrom (1980) determined that the work itself and pay were the most critical areas related to low job satisfaction with independence, challenging work and service opportunities related to higher satisfaction while Smith and Reinow (1984) reported that a perception of low professional status and lack of professional development and advancement opportunities were related to dissatisfaction. Additional research (Hook, 1981; Glasgow, 1982; Lynch & Verdin, 1983; Chopra, 1984; Bernstein & Leach, 1985; Bengston & Shields, 1985; Sherrer, 1985; Allison & Sartori, 1988; Washington, 1988; Mirfakharai, 1991; and Horenstein, 1993) revealed library administrators to be more satisfied with intrinsic aspects of their work than non-administrators, management style to be the best predictor of librarian satisfaction in an academic setting and faculty status or rank to be a predictor of overall job satisfaction. Intellectually challenging work, advancement opportunities, independence and autonomy, support for professional travel and research and salary continued to appear as factors in job satisfaction/job dissatisfaction.

A theory of role dynamics focusing on stress resulting from expectations derived from the work environment defined two main types of stress. Role conflict (created by expectations in conflict) and role ambiguity (created by vague or unclear expectations) led to conclusions of lower levels of job satisfaction for workers in environments which created high conflict and ambiguity (Kahn et al., 1964). An analysis of these variables within the

context of librarianship suggested both were significantly related to overall job satisfaction (Stead & Scamell, 1980). The bureaucratic nature of librarianship and the limited discretionary power given to professionally trained workers is stated to be unusual when compared to other professions with specific professional education, such as engineers, teachers, scientists and hospital personnel (ibid). In addition, the relationship appears to be affected by individual and environmental variables and to be moderated by self-esteem, particularly for lower-level librarians (Hosel, 1984).

Studies Related to Maslow and Herzberg

Maslow's need hierarchy theory and Herzberg's dual-factor theory were specifically considered in a series of studies. One of the earliest (Wahba, 1973) provided an empirical test of the applicability of the theories to librarians. Promotional opportunities, pay levels and security were sources of strong dissatisfaction with women reporting greater dissatisfaction with the factors in addition to that of supervision. Women also expressed greater need deficiencies than men in esteem, autonomy and self-actualization. Library administrators expressed higher satisfaction in these areas with technical services librarians expressing the lowest levels. Wahba (1985) explored the differences in job satisfaction for men and women in a later study which concentrated on their perceived degree of need fulfillment and need deficiencies. Similar levels of fulfillment were reported in lower-order needs, such as social or security needs, with women reporting significantly lower levels of fulfillment than men in esteem and autonomy needs. In the area of need deficiency, women indicated larger degrees of need than men in all areas except for the social need.

A particularly relevant study involving 237 American and Canadian librarians investigated job satisfaction in relation to Herzberg's theory (Plate

& Stone, 1974). These authors reported findings corresponding to those of Herzberg, most notably that

> the factors involved in producing job satisfaction (and motivation) are distinct and different from the factors that lead to job dissatisfaction and the factors producing job satisfaction (and motivation) are concerned primarily with the actual job content (or work-process factors): the reasons for dissatisfaction (or hygiene factors) deal primarily with factors relating to the context in which the job is done—the job environment. Both sets of factors are closely interrelated. (p. 97)

Partial support for Herzberg's theory was reported in a study of academic librarians in Jordan (Hamshari, 1985/1986). Both motivators and hygienes contributed to overall job satisfaction and technical services librarians scored significantly higher than public service librarians on most dimensions. Additional support for the theory was provided by Nzotta (1987) who determined compensation, physical environment and advancement to be major sources of dissatisfaction with security, actual work itself and autonomy producing satisfaction in his study of Nigerian librarians.

Additional studies of librarians which drew upon Maslow's or Herzberg's theories investigated the role of work space in productivity and satisfaction (Isacco, 1985), decision-making and staff morale (Nitecki, 1984), expectations of administrators (Price, 1987; Fink, 1987) expectations by administrators (Alley, 1987), work-related stress (Bunge, 1987) and job satisfaction of ethnic minority librarians (Squire, 1991). Baker and Sandore (1991) considered Maslow's hierarchy in relation to the rapid pace of institutional and technological change in libraries. Building on their earlier work, they concluded that the introduction of automation, in particular, led many librarians to feel threatened concerning job security, professional knowledge and professional competency. "Professionals who are already at ease with many of the levels on Maslow's needs hierarchy are suddenly faced

with starting all over, possibly to satisfy beginning or basic job security needs" (p. 43). They concluded, however, that it is the uncertainty and turbulence of change rather than specific individual events, such as the introduction of new technologies into libraries, which have caused ambivalence and insecurity and lowered the reported job satisfaction of librarians.

Studies Using the Minnesota Satisfaction Questionnaire

The Minnesota Satisfaction Questionnaire has been used in several studies related to librarians. One of the first studies to use the instrument was a short longitudinal investigation in which data pertaining to vocational needs and job expectations were collected prior to subject entry into work environments with data on vocational need, environmental reinforcers and job satisfaction collected after subjects had been working at least six months (D'Elia, 1975). Job satisfaction was determined to be a function of both need gratification and expectation fulfillment. A later study (D'Elia, 1979) found two job factors related to supervision (human relations and ability utilization) to be most related to satisfaction.

The level of general job satisfaction showed no significant difference for university catalogers or reference librarians in a study that used the long-form MSQ, although some specific areas, such as "variety," "compensation," or "working conditions" did show substantial differences (Chwe, 1976; 1978).

Additional studies using the MSQ concluded bibliographers were more satisfied than non-bibliographers on intrinsic satisfaction (Swe, 1981/1982), age was associated with job satisfaction while participation in continuing education was not and job satisfaction as a single variable was not related to faculty status (Hegg, 1982/1984, 1985, and 1986). Women librarians in Nigeria derive greater satisfaction from their work than men, in contrast to studies of librarians in the United States where men were either more satisfied or no

difference was determined (Nzotta, 1985). Autonomy and decision-making opportunities were more important in predicting job satisfaction than gender (Rockman, 1984; 1985/1986) and factors related to superior-subordinate relations (supervision) were significantly related to general job satisfaction (Swasdison, 1989/1990).

Conclusion

Controversy surrounds the study of librarian personality as well as that of the job satisfaction of academic librarians. No study was found which combined an exploration of personal characteristics, such as work behavior type, with job satisfaction results. Such a study would appear to be of potential interest to graduate schools of library and information science as they select students for admission and to academic institutions as they recruit and hire librarians. The entire process of recruitment, selection, compensation and retention of manpower in an occupation is of interest in any study of the socialization of professions (Schmidt and Hunter, 1979) and this study may be of benefit in this area.

Finally, the study has the potential to expand current understanding of work behavior type by studying a population not previously included in MPPP studies.

Summary

This review of the literature includes information on theories of job satisfaction, the measurement of job satisfaction and theories and research related to the study of work behavior type, including the development of the Marcus Paul Placement Profile. The chapter concludes with a review of relevant studies related to the personality and job satisfaction of academic

librarians. The following chapter outlines how work behavior type and job satisfaction were explored in this study.

CHAPTER III
DESIGN AND METHODOLOGY

Organization of the Chapter

The design and methodology of the study are described in this chapter. It contains an explanation of the research problem, the research population and procedures, which include data collection, instrumentation and statistical treatment.

Statement of the Research Problem

The problem this study investigated was to relate two well-established theories about job satisfaction/dissatisfaction to the library work environment. The first theory (Herzberg, 1966; Herzberg, Mausner, & Snyderman, 1959) suggests that job satisfaction relates to a set of work environment conditions called "motivators" and job dissatisfaction relates to a different set of work environment conditions called "hygienes." The second theory (Nickens, 1984; Bauch, 1981) suggests that workers related differently to the same work environment and that their different reactions are predictable by the Marcus Paul Placement Profile scores. In this context, the following questions guided the study:

1. What are the work behavior types of academic librarians in Florida as measured by the Marcus Paul Placement Profile (MPPP)?

2. What are the motivators and hygienes perceived by academic librarians in Florida as reported on the Minnesota Satisfaction Questionnaire (MSQ)?

3. Do factors derived from a factor analysis of the MSQ show characteristics of motivators and hygienes?

4. Do the different work behavior type scores of academic librarians in Florida, as measured by the MPPP, relate differently to the motivator and hygiene scores derived from the MSQ?

Population

The majority of potential subjects in the sample population were the 1993 Florida members of a national organization, the Association of College and Research Libraries, a division of the American Library Association. Additional members of the subject pool were the members of the Academic Caucus of the Florida Library Association for 1993. Membership in a professional organization relevant to academic librarianship was the initial criterion for inclusion in the subject pool. This yielded 350 potential subjects.

The subjects retained in the sample group consisted of individuals currently employed as professional librarians in academic libraries in Florida. Academic libraries were defined as those in post-baccalaureate institutions (community or junior college, college, university or special library connected with a post-baccalaureate institution). Only those individuals holding a Master's degree in Library Science (MLS) or an appropriate equivalent degree were included in the analysis of data. Although academic librarians increasingly hold additional subject-related graduate degrees, an accredited MLS is the usual required degree for entry into the profession (Robbins, 1990).

Procedures

Data Collection

Data for work behavior type (WBT) were collected using the MPPP. Job satisfaction data were collected using the MSQ. Both measures are self-

reporting forms, described as appropriate for distribution through the mail. Instrument packets were numerically coded to eliminate personal identification but to permit correlation of responses. Study participants who wished to receive a printed profile reporting their work behavior type were instructed to put their names on the MPPP form. Following the distribution of the MPPP reports and before the analysis of data, responses were recorded with a second numbering scheme to ensure confidentiality.

The national office of the Association of College and Research Libraries (ACRL) provided the researcher with sets of mailing labels for ACRL members living in Florida. Mailing labels for members of the Academic Caucus of the Florida Library Association were provided by the state office of the organization. A cover letter (Appendix A) explaining the study, requesting participation and assuring confidentiality for participants was sent to the 350 individuals who constituted the subject pool, along with an MPPP form, an MSQ form and a demographic form which supplemented the demographic section of the MSQ. A stamped envelope addressed to the researcher was included for ease of return. Those contacted were asked to reply within one week. Approximately two weeks after the first mailing, a second letter requesting participation was sent to non-respondents (Appendix B). Along with personal reminders for individuals who could be readily contacted by telephone or electronic mail, a second reminder letter, sent approximately two months after the initial mailing, was distributed to non-respondents. This final mailing included a second complete instrument packet. These three mail contacts completed the data collection sequence.

As an incentive for participation, the 350 members of the subject pool were offered an opportunity to receive a copy of their individual MPPP profile. Approximately 60 percent of the respondents requested the profile. This group received one additional mailing which included a letter briefly

describing the theoretical basis of the MPPP profile, thanking them for their participation and including their personal profile (Appendix C). Finally, participants who wished to learn more about the results of the study or who had individual questions were encouraged to contact the researcher in a separate letter or message. Some questions were answered immediately; those requesting information concerning results were retained in a file for later response.

Instrumentation

The study is based on two constructs. The first construct is work behavior type. The Marcus Paul Placement Profile (MPPP) was used to measure work behavior type. The second construct addressed in the study is job satisfaction/job dissatisfaction. The Minnesota Satisfaction Questionnaire (MSQ) was used to measure the second construct.

Marcus Paul Placement Profile

The MPPP was designed to describe the individual work behavior patterns of people for the purpose of matching individuals and jobs. It can be used in an educational setting to facilitate the job placement of students and in a business setting as an aid in the recruitment, placement and assignment of personnel. It may also be used as an element in the development of work teams by assisting team members to understand and appreciate different work behaviors and as a training tool (Bauch, 1981). As long as the work environment is stable, work behavior patterns are stable over time. All individuals exhibit all the work behavior patterns to some degree but one behavior pattern will emerge as predominant (Glenn, 1982/1983; Wellstood, 1984/1985).

The theoretical design of the MPPP is based on the model developed by William Marston (1928). Marston theorized that human behavior

corresponded to primary emotions which could be assigned to one of four categories: dominance, inducement, submission and compliance. In addition, Marston determined behavioral traits for each of the four categories. Statistical confirmation of these traits was provided by Cattell (1948) and Geier (1967). Bauch (1981) and Nickens (1984) drew on this research base in the development of the MPPP as a tool which could increase understanding of work behavior. A more complete discussion of the theoretical basis of the MPPP is included in Chapter II.

Theories related to management, placement and career counseling form an additional basis for the MPPP. In addition, the work of Argyris (1964), Blake and Mouton (1964) and McGregor (1960), who were instrumental in integrating humanistic principles into the work place, were incorporated into the design of the MPPP with the intent of developing an instrument that would increase the understanding of work behavior for employer and employee alike. The terminology used in the MPPP is positive or neutral. This reflects the philosophy of Bauch (1981) who believed that work behavior traits and types are terms that can be used to increase understanding of work behaviors rather than as judgments of work behaviors. Finally, the terms used in the profile do not reflect social behavior but reflect work behavior (Nickens, 1984). The MPPP can be completed in less than 10 minutes. Test-retest reliability is about .98, as reported by Wellstood (1984/1985).

The MPPP consists of 24 sets or "boxes," each containing four forced-choice terms from which an individual selects the one that is most descriptive of his or her self-perceived work behavior. The individual then selects the word in each box that is least descriptive of his or her work behavior. Each word choice in a box is numbered one, two, three, or four in both the "most" and "least" category. The number of one word is circled in the "most" category and the number of another word is circled in the "least"

category. An example of an MPPP "box" is illustrated in Figure 8. Only one "most" and one "least" choice is made in each of the 24 boxes.

Sample Box		
Most		Least
1	careful	1
2	fast	2
3	alert	3
4	nice	4

Figure 8. Illustration of a Marcus Paul Placement Profile "Box"

By entering these numbers into a computer program that associates them with a MPPP behavior type score, a profile is developed.

Four independent scores are reported on the profile derived from the MPPP. The scores relate to four work behavior types: energizer, inducer, concentrator and producer. The 4 independent scores are plotted on a scale that extends from -15 to +15. At the center of the scale is the norm score, zero. This allows for easy observation of the relationship of each individual score to the norm as well as to each other score. The scores are scaled, a graph with the scores plotted on it is produced and, following the graph, a narrative description of the behavior associated with the score of best fit is provided. In addition, an interpretation of the behavior associated with the relative scaled scores is included in the MPPP report. (Nickens, 1984). Figure 9 illustrates an abbreviated sample MPPP profile.

PLACEMENT PROFILE

OF

JANE DOE

Energizer . . . . x . . . .
Inducer . . . . x . . . .
Concentrator . . . . x . . . .
Producer . . . . x . . . .

- 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 +

Interpretation:

Jane Doe is a producer type. Producers strive for quality as they carefully follow procedures. . . .
Jane Doe is of the worker group noted for high levels of . . .

Figure 9.   Sample MPPP Profile

The four terms listed in the profile represent the four primary work behavior types. The highest score of these four is the individual's "primary type of best fit" (Nickens, 1984, p. 11). The description of the four primary types, as they would be included in a report of a profile, are included below.

Energizer (E) type worker: These workers are actively engaged in getting results. They are assertive, choosing a direct approach as they pursue goals. High 'E' type workers are impatient with detail, desiring a direct answer and action from associates. They are creative and have many ideas for improving the work processes.

Concentrator (C) type worker: Normally, the 'C' types apply their skills in orderly ways, resisting distractions. They are steady workers and are loyal to the organization, showing great patience. They are systematic, effective and help to maintain moderation in tense situations.

Inducer (I) type worker: These people involve others as they pursue their objectives. They are sensitive to needs of their associates, and share optimistic outlooks as they influence others. They are good at using group processes to accomplish goals, being able to clarify ideas for themselves and others. They place more emphasis on people and interpersonal relations than on their organization.

Producer (P) type worker: Producers strive for quality as they carefully follow procedures, guidelines, or standards. They can support their decisions and actions with irrefutable documentation. Producers expect clear directions but they can be relied on to meet their deadlines, follow orders and carry out their assignments with precision.

An important contribution to the field of work behavior analysis was the automation of analysis and the corresponding ability to quickly produce a computer-generated report. The report can be used as a basis for discussion, career counseling, or as a component in career self-understanding. Through

the work of John Nickens, a program was devised which allows the words selected as "most" or "least" in the 24 "boxes" on the MPPP response sheet to be entered into a microcomputer with results analyzed and a profile printed almost immediately. In addition to classroom use, the MPPP lends itself to use in career development workshops or training sessions.

Reliability and validity of instrumentation are important considerations in any decision to use a particular measure. "Validity and reliability refer to different aspects of a measure's believability. Judgments of validity answer the question: Is the instrument an appropriate one for what needs to be measured? And reliability indicators answer: Does the instrument yield consistent results?" (Henerson, Morris & Fitz-Gibbon, 1987, p. 133). Further, "it is impossible for a measuring instrument to be reliable without being valid. However, it cannot be valid unless it is first reliable" (Ary, Jacobs & Razavieh, 1985, p. 226). "So if one demonstrates a satisfactory level of validity, at least internal reliability must be assumed" (Nickens, 1984, p. 14).

With its reliance on a sound theoretical basis, the MPPP reflects a validity called face validity. The statistical procedures that were employed to obtain the 96 MPPP "most/least" adjectives and to associate them with work behavior type, although not discussed in detail here, also provide evidence of reliability and validity.

In addition, a study of 96 Santa Fe Community College career education students demonstrated that 88.4 percent of the students, after analyzing their own responses to the MPPP, rated the accuracy of the analysis components as "an accurate description of my work behavior." This result indicates a high level of concurrent validity for the MPPP. Concurrent validity comes from the practice of relating a measurement to a criterion to determine the amount of congruence. Measures accounting for more than 64 percent of the variance

in a criterion measure are rarely reported in the literature. "This high degree of congruence between students' perceptions of their work behavior and the descriptions provided by the MPPP suggests that the MPPP is sufficiently valid for helping college students understand their work behavior" (Nickens, p. 14).

The MPPP also has been shown to have predictive validity when used for career planning. Glenn (1982/1983), Wellstood (1984/1985), Olson (1988/1990) and Barber (1989/1990) studied work behavior types as they relate to job satisfaction, attrition, specific vocations, perception of individuals in leadership positions and occupational stressors. According to Glenn (1982/1983), ". . . significant relationships were found between (MPPP) work behavior types and areas of job satisfactions. Additionally, specific areas of job effectiveness were found to be significantly related to work behavior type. These findings were consistent with expectations . . ." (p. ix).

Glenn concluded,

> in order to maintain maximum effectiveness and worker satisfaction, employees need to be placed in jobs which meet their needs for degree of structure, autonomy, supervision, feedback, and contact with co-workers. One way to understand these various needs is to have knowledge of individual work behavior types and personality functions. (p. 135)

Wellstood (1984/1985) further reported "results indicate that work behavior type relates to overall and to specific aspects of job satisfaction . . . [on the MPPP]" (p. vi).

> Supervisors and managers could make valuable use of knowledge about work behavior types as well as the types of their subordinates when assigning tasks or projects. . . . teaching and training techniques should also differ for the various work behavior types. (pp. 113-114)

The results of these and other studies have shown that information on work behavior types can be useful in a variety of work-related areas, including job satisfaction and career planning.

The face validity of the MPPP, the concurrent validity demonstrated through research at Santa Fe Community College and additional research at the University of Florida have demonstrated that the MPPP "is valid as a career advisement tool for helping people understand their work strengths, and for suggestions for writing effective letters of reference for individuals seeking job placements" (Nickens, 1984, p. 15). Although all theoretically valid uses of the instrument have not yet been researched, the MPPP "was designed to be utilized as a tool . . . in the business setting for recruiting, job placement, work assignment, team building, and training" (p. 10) and, accordingly, it was chosen for this study. Use of the MPPP in this study also provided insight into another theoretically valid use for the instrument.

Minnesota Satisfaction Questionnaire

The Minnesota Studies in Vocational Rehabilitation, or the Work Adjustment Project, are a series of research studies which began in 1957 and which have led to the development of a variety of instruments to measure indicators of work adjustment. The Minnesota Satisfaction Questionnaire (MSQ) is a measure for one of the primary indicators of work adjustment. It allows for the attainment of a more individualized assessment of worker satisfaction, that is, two individuals may express similar amounts of general satisfaction with their work but the reasons for this satisfaction may be very different.

The MSQ is available in long form and in short form. Some previous studies of the job satisfaction of librarians used one of the two MSQ forms (D'Elia, 1975; Chwe, 1976; Rockman, 1985/1986; Nzotta, 1987). In particular,

D'Elia used the short form MSQ and Chwe used the long form MSQ. Chwe argued strongly that, because of the repetitive format of the long form, the short form was more appropriate for subjects, like academic librarians, with high levels of education (Chwe, 1978, p. 50). Finally, the short form MSQ was considered more appropriate for distribution though the mail as it can be completed in about 10 minutes, thus making it more likely that potential subjects would participate in the study. The MSQ is self-administering with directions on the first page. Although no time limit is imposed, respondents are encouraged to complete responses quickly.

The short form MSQ, consisting of 20 questions that measure 21 dimensions of job satisfaction (ability utilization, achievement, activity, advancement, authority, compensation, co-workers, creativity, independence, moral values, policies and practices, recognition, responsibility, security, social service, social status, supervision-human relations, supervision-technical, variety and working conditions) was selected for this study. Each item refers to a possible motivator or hygiene. The first 20 items are measured by a Likert-type scale which asks respondents to indicate their degree of agreement with a statement related to that dimension of job satisfaction. Five response possibilities (strongly agree, agree, undecided, disagree or strongly disagree) are provided for each item. The responses are weighted from five to one in descending order so that strongly agree is assigned a maximum of five points while strongly disagree is assigned a minimum of one point. The 21st dimension, general job satisfaction, is interpreted as an aggregate of scores in the 20 dimensions measured separately. The three scales of the short-form MSQ consist of the items illustrated in Figure 10 (Weiss et al., 1967, p. 4).

Scale	Items
Intrinsic	1 2 3 4 7 8 9 10 11 15 16 20
Extrinsic	5 6 12 13 14 19
General Satisfactions	1-20

Figure 10. Minnesota Satisfaction Questionnaire Scales

The most meaningful way to interpret the MSQ is to use the most appropriate norm group for the individual and then to use percentile scores for each scale obtained for the norm group. The most appropriate norm group would be one that corresponds exactly to the individual's job. As norm groups are not available for all occupational areas, a similar norm group which shares characteristics such as tasks performed, type of supervision, physical working conditions and so on, may be used. If no appropriate norm group has yet been developed, the MSQ raw scores can be converted to percentile scores using Employed Disabled or Employed Non-disabled norms. Finally, MSQ raw scores for all scales can be interpreted by ranking them. This will indicate areas of relatively greater or lesser job satisfaction (Weiss et al., p. 4-5). When used with an individual subject, percentile scores of 75 or greater generally represent a high level of job satisfaction, scores in the 26 to 74 percentile range indicate average satisfaction, and a percentile score of 25 or lower indicates a low level of satisfaction.

The current MSQ manual reports norms for seven occupational groups for the short-form MSQ. Based on educational requirements for employment (college degree and/or additional education or training), years of employment in the profession and years in current position, the norm group for engineers is the most useful comparison for the norms which emerge from this research study.

Validity for the short-form MSQ is inferred, in part, from validity for the long-form as the short-form is based on a subset of the long-form. That is, the short-form MSQ was developed by choosing 20 items, each representative of one of the 20 scales on the long-form MSQ. Those items correlating most frequently with a respective scale were selected. A group of 1,460 employed individuals completed the measure. A factor-analysis of the resulting data yielded two factors, intrinsic satisfaction and extrinsic satisfaction. The 12 items that loaded high on one factor constitute the Intrinsic Scale. Six factors constitute the Extrinsic Scale and all 20 items constitute the General Satisfaction Scale. This allows for scores on all three scales.

The construct validity of the MSQ is primarily derived from the fact that it generally performs according to theoretical expectations. Construct validation studies of other questionnaires, based on the Theory of Work Adjustment and developed through the Work Adjustment Project, support this conclusion.

Additional evidence supporting the validity of the short-form MSQ is provided by studies of group differences by occupation and studies on the relationship between job satisfaction and satisfactoriness. Occupational group differences in mean satisfaction scores for the seven available norm groups were statistically significant for each of the three scales.

The Hoyt reliability coefficients for each norm group and each short-form scale were reported to be, in general, high. For the Intrinsic Scale, they ranged from .84 (assemblers and electrical assemblers) to .91 (engineers). The Extrinsic Scale range was .77 (electrical assemblers) to .82 (engineers and machinists). The range for the General Satisfaction Scale was .87 (assemblers) to .92 (engineers). The median reliability coefficients were .86 for the Intrinsic Satisfaction Scale, .80 for the Extrinsic Satisfaction Scale, and .90 for the General Satisfaction Scale.

The stability of scores obtained from the short-form MSQ is currently being studied but no data have, as yet, been reported. However, data on the General Satisfaction Score for the long-form MSQ show correlations of .89 for a one-week test-retest period and .70 for a one-year test-retest interval. Stability for the General Satisfaction Score of the short-form MSQ may be inferred from these data.

Research on both forms of the MSQ continues, focusing on improving the psychometric characteristics of the scales and expanding the range of dimensions which may be measured by the MSQ. A 30-scale form has been developed and is being tested. Finally, researchers using the MSQ agree to report results to be used in the development of new norm tables. Results of this study will be reported to the Work Adjustment Project at the University of Minnesota for possible use as another occupational norm group for the short-form MSQ.

Statistical Procedures

The data gathered for the study were analyzed within the context of each of the research questions set forth in Chapter I.

The Marcus Paul Placement Profile was analyzed using the MPPP software. The procedures for the analysis are well-validated. Scaled scores were calculated and scores were plotted on a graph.

The scores for all 202 subjects were then analyzed by computer to determine the number of subjects in each type, with these numbers further divided into male and female sub-groups. The percentile of type by total and by sex was calculated.

The responses to the Minnesota Satisfaction Questionnaire were analyzed using the FACTOR procedure which provides several types of common factor and component analysis. Preliminary factor procedures were

done which resulted in loadings on three, four and five factors. The three factor loading was selected. The Promax rotation was used to report the results. The purpose of the factor analysis was to allow responses to be characterized as motivators or hygienes.

The mean score and standard deviation for each of the 20 items on the MSQ, the mean score and standard deviation for the Intrinsic Scale, the Extrinsic Scale and General Satisfaction Scale and the mean score and standard deviation for each item and the three scales by type were calculated.

The CANCORR Procedure was used to produce canonical correlations. This is a technique used for analyzing the relationship between two sets of variables, each of which can contain several individual variables. The canonical correlation procedure was used to determine the relationship of work behavior type scores revealed by the MSQ to the motivators and hygienes identified through the factor analysis of the MSQ.

<u>Summary of Design and Methodology</u>

This chapter outlined the procedures of the study. Data were collected from academic librarians employed in Florida for the purpose of determining relationships among work behavior type, work environment and job satisfaction. The Marcus Paul Placement Profile and the Minnesota Satisfaction Questionnaire were selected as the instruments used to measure each of these areas. Data treatment methods utilized were frequency distribution, factor analysis and canonical correlation. The following chapter presents the results and analysis of these data.

CHAPTER IV
RESULTS AND ANALYSIS OF DATA

The problem of this study was to determine the relationship of the theory that job satisfaction and job dissatisfaction are affected by motivators and hygienes to the theory that motivators and hygienes are perceived differently by different work behavior types. In addition to describing the sample population, the chapter contains the results of the study and provides answers to the research questions posed in Chapter I.

Description of the Sample Population

The sample population in this study was comprised of 350 individuals selected from the membership of the Association of College and Research Libraries, a division of the American Library Association, and the Academic Caucus of the Florida Library Association. A limited number were members of other divisions of the American Library Association. All prospective participants were members of one or more of these Associations. The criteria for the use of data received from respondents included current employment in an academic library in Florida and holding a Master in Library Science (MLS) degree or an appropriate other degree (for example, Master in Librarianship, Master in Media or Master in Information Science.) The master's degree is the generally required professional degree for employment as an academic librarian; the actual name of the degree may vary according to the awarding institution or individual program emphasis.

An academic library was defined as a library in a post-baccalaureate institution, including community or junior college, college or university, as well as special libraries connected with post-baccalaureate institutions. Thus, respondents worked in all levels of higher education and in both large and small schools. Correspondingly, the libraries in which they were employed ranged from those with a staff of five or fewer to those employing 100 or more. However, the commonality of employment as an academic librarian was viewed as more basic to the selection of the study sample than individual differences in institution or specific professional responsibilities. All subjects for whom data were used were currently employed academic librarians in Florida who showed an orientation and commitment to the profession through active participation in one or more major professional organizations.

Of the 350 subjects contacted, 258 or 73.7 percent responded. One response option requested subjects to return blank forms if they did not wish to be included in the study. A group of 15 people, or 4.3 percent of the subject pool, selected this option. Another 16 individuals, or 4.6 percent, responded that they were retired. An additional 18 people, 5.1 percent, responded that they were not eligible and reported a variety of reasons including having left the profession, having left Florida for employment in another state, returned to graduate school or not presently being employed in an academic library. Finally, seven respondents, or 2.0 percent, returned incomplete or invalid sets of measures and were eliminated from the data analysis. In addition, 92 individuals, or 26.3 percent, did not respond in any way. The data analysis thus involved complete responses from 202 individuals, or 57.7 percent, of the initial sample of 350 (Table 1).

Table 1

Response to Survey

Type of Response	N	Percent
Usable Responses	202	57.7
No Response	92	26.3
Other	18	5.1
Retired	16	4.6
Blank Forms Returned	15	4.3
Invalid Responses	7	3.0
Total	350	100.0

The data on the academic librarians obtained from the demographic section of the MSQ and the supplementary data form are summarized in Table 2. Female subjects accounted for 71.78 percent of the usable responses, or 145 of 202 subjects, while the 57 male respondents constituted 28.22 percent of the usable responses. The largest percentage, 39.6 percent or 80 subjects, had been in their current position for 2 to 5 years while 22.28 percent, or 45 subjects had been in their current position for 6 to 10 years. Over 85 percent of the subjects had been in the profession for 6 years or more, a sufficient time to evaluate their employment, attain promotions, or change specific jobs one or more times. This corresponds with the fact that over 84 percent of the subjects were aged 40 and over. Thus, the individuals whose responses were included in the data analysis were, for the most part, mature, experienced academic librarians.

The largest number (142 or 70.3 percent) reported that they were currently employed in a university library. Another 31, or 15.35 percent, were

employed in a community college, while 20, or 9.0 percent, were employed at a 4-year college.

All subjects held an appropriate masters degree for their particular position with 55, or 27.23 percent, holding one or more additional masters degrees and 25, or 12.38 percent, holding a Ph.D. or Ed.D. degree with the Ph.D. predominant in this latter group.

Research Questions

Question 1: What are the work behavior types (WBT) of academic librarians in Florida as measured by the Marcus Paul Placement Profile (MPPP)?

The frequency distribution of work behavior types found among academic librarians in Florida is shown in Table 3. Overall, 45.54 percent, or 92 individuals were concentrators. Of these, 65 were female (44.83 percent of the 145 female subjects) while 27, or 47.37 percent, of the 57 male subjects showed concentrator as their dominant work behavior type.

The second largest group were producers with 77 individuals or 38.12 percent of the total sample. Sixty females, or 41.38 percent of their total, and 17 males, or 29.82 percent of their total, constituted this group. Together, those individuals with either concentrator or producer as their dominant work behavior type totaled 167 or 83.66 percent of the total sample of 202.

By comparison, previous studies of members of a variety of professions showed quite different results. Glen (1982/1983) sampled vocational educational administrators. She found 47 percent concentrators, 25 percent producers, 21 percent inducers and 7 percent energizers. Wellstood (1984/1985), who studied medical technologists, reported 33.3 percent concentrators, 52.3 percent producers, 7.2 percent inducers and 7.2 percent energizers.

Table 2

Characteristics of the Participating Academic Librarians

Characteristic	N	Percent
A. Gender		
Male	57	28.22
Female	145	71.78
B. Age		
<30	5	2.48
30-39	28	13.86
40-49	94	46.53
50-59	46	22.77
>59	18	8.91
No response	11	5.45
C. Education Level		
Master in Library Science	202	100.00
or appropriate equivalent		
Additional Masters degree	55	27.23
Doctoral Degree		
Ph.D.	19	9.40
Ed.D.	6	3.00
Other advanced degree or certification	8	3.96
D. Years in Current Position		
<2	32	15.84
2-5	80	39.60
6-10	45	22.28
11-20	29	14.36
21-30	12	5.94
>30	2	.99
No response	2	.99
E. Total Years in Profession		
<2	3	1.49
2-5	26	12.87
6-10	29	14.36
11-20	74	36.63
21-30	55	27.23
>30	12	5.94
No response	3	1.49
F. Current Employment by Type of Institution		
Community/Junior College	31	15.35
College	20	9.90
University	142	70.30
Other	9	4.45

Table 3

Work Behavior Type by Gender

Row variable: work behavior type as percentage of same sex respondents Column variable: work behavior type as percentage of same type respondents Cell format: frequency/ percent: total/percent: row/ percent: column					
Gender	Concentrator	Energizer	Inducer	Producer	Total
Female	65 32.18 44.83 70.65	9 4.46 6.21 64.29	11 5.45 7.59 57.89	60 29.70 41.38 77.92	145 71.78
Male	27 13.37 47.37 29.35	5 2.48 8.77 35.71	8 3.96 14.04 42.11	17 8.42 29.82 22.08	57 28.22
Total	92 45.54	14 6.93	19 9.41	77 38.12	202 100.00

Poston (1988/1989) sampled nursing faculty and found that 39.13 percent were concentrators, 36.96 percent producers, 17.39 percent inducers and 6.52 percent energizers. Olson (1988/1990) studied college placement officers. In this group he found 15 percent to be concentrators, 11 percent producers, 67 percent inducers and 7 percent energizers. Barber (1989/1990) examined the work behavior types of Cooperative Extension Service mid-managers and found them to be more evenly divided among the four categories, with concentrators making up 31.8 percent, producers 28.2 percent, inducers 24.5 percent and energizers 15.5 percent.

The distribution of work behavior types of academic librarians is skewed toward concentrators and producers, as can be observed in Table 3.

According to the MPPP user manual, approximately 60 percent of the general population are either concentrators or producers, with producers dominating. In this study it was found that academic librarians are almost 84 percent concentrators and producers, but concentrators are predominant. Female academic librarians are even more predominantly producers or concentrators (86 percent), again with concentrators, about 45 percent, dominating. By contrast, the male academic librarians are 77 percent concentrators or producers, although concentrator is still the largest group, accounting for 47 percent of the male subjects.

Those who are categorized as concentrators and producers are most likely to work to maintain their organization in its present form. They tend to follow the rules and regulations of the organization and can be relied upon to do the job assigned to them. In contrast, energizers and inducers, who represent about 20 percent each of the general population, tend to seek to alter the system and to effect change in their organization (Bauch, 1981). Energizers are represented in this study by 6.93 percent of the subjects (6.21 percent of the females and 8.77 percent of the males) while inducers account for 9.41 percent of the subjects or 7.59 percent of the females and 14.04 percent of the males. Thus, concentrators and producers are represented in substantially higher numbers among academic librarians than in the general population and the results on the MPPP support the theory that different work behavior types are attracted to different professions.

Question 2: What are the motivators and hygienes perceived by academic librarians in Florida as reported on the Minnesota Satisfaction Questionnaire (MSQ)?

The MSQ has 20 items which are divided into Intrinsic, or job content items, and Extrinsic, or job context, items. These are closely analogous to Herzberg's classic motivators and hygienes. The short-form MSQ used in this

study generates three scores; that is, an Intrinsic score, an Extrinsic score and a General Satisfaction, or Total score. Higher scores by area or a higher total score imply a greater degree of job satisfaction either with job content or job context or in general. Further, scores for individual items are presented allowing for more specific analysis.

Table 4 presents the mean score and standard deviation for each item. The scores are presented for each work behavior type along with the score for the total sample population.

As shown on Table 4, inducers had the lowest mean score on 11 of the 20 items, producers had the lowest mean score on 7 of the items while energizers had the lowest mean score on one item. Inducers and producers had identical mean scores on one item. On 19 of 20 items, concentrator mean scores were above the total mean; producer mean scores were below the total mean on all 20 items. The lowest individual mean score per type was item 13 for concentrators (pay and amount of work), item 14 for energizers (chances for advancement) and item 12 (how company policies are put into place) for inducers and producers.

Although the mean score differences are not particularly large, they reveal a pattern. Concentrators, the largest number of subjects, are consistently more satisfied with all aspects of their position, followed closely by energizers, the smallest numbers of subjects. Inducers and producers consistently show the lowest mean scores per item with the exception of item 18 (relationship of co-workers with each other), the only item on which one of these two types did not show the lowest mean score.

Table 4

Mean Score and Standard Deviation by Item. Minnesota Satisfaction Questionnaire (Short Form).

MSQ Item and Job Characteristic	Concentrator		Energizer		Inducer		Producer		Total	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
*1. Ability to keep busy	4.34	0.84	4.50	0.52	4.37	1.01	4.25•	0.93	4.32	0.87
*2. Chance to work alone	4.12	0.84	4.36	0.74	4.11•	0.74	4.13	0.89	4.14	0.84
*3. Opportunity to do something different from time to time	4.35	0.79	4.57	0.51	4.47	0.51	4.22•	0.82	4.33	0.77
ø4. Chance to be "somebody" in the community	3.77	0.93	3.93	0.92	4.00	0.82	3.13•	0.99	3.56	1.00
ø5. How the boss handles his/her workers	3.45	1.19	3.21	1.25	2.95•	1.27	3.07	1.24	3.24	1.23
ø6. Supervisor's decision-making ability	3.50	1.18	3.57	1.09	3.21•	1.44	3.40	1.08	3.44	1.16
*7. Being able to do things that don't go against my conscience	4.22	0.80	4.07	1.07	3.74•	0.99	3.94	1.00	4.05	0.93
*8. Job provides steady employment	4.40	0.84	4.36	0.84	4.21•	0.98	4.23	0.77	4.32	0.83
*9. Opportunity to do things for others	4.39	0.74	4.50	0.85	4.53	0.84	4.14•	0.76	4.32	0.77
*10. Opportunity to tell people what to do	3.51	0.78	3.50	1.09	3.26•	0.87	3.44	0.70	3.46	0.78
*11. Chance to do something that makes use of my abilities	4.24	0.93	4.29	0.91	3.95	0.91	3.83•	1.06	4.06	0.99
ø12. How company policies are put into practice	3.08	1.02	3.00	1.24	1.89•+	0.81	2.56+	1.14	2.76	1.12
ø13. My pay and the amount of work I do	2.88+	1.20	2.64	1.34	2.47•	1.26	2.61	1.28	2.72	1.25
ø14. Chances for advancement	2.90	1.24	2.57+	1.16	2.42•	1.12	2.66	1.14	2.74	1.19
*15. Freedom to use my own judgement	4.13	0.89	4.07	1.20	3.84•	0.76	3.84•	1.02	3.99	0.96
*16. Opportunity to try my own methods	4.11	0.80	4.29	0.91	4.00	0.67	3.86•	1.06	4.01	0.91
17. Working conditions	3.80	0.99	3.86	1.17	3.16•	1.21	3.30	1.16	3.55	1.11
18. Relationships of co-workers with each other	3.58	1.05	2.93•	1.07	3.53	1.22	3.44	1.08	3.48	1.08
ø19. Praise I get for doing a good job	3.37	1.21	3.43	1.28	2.95•	0.91	3.08	1.16	3.22	1.17
*20. Feeling of accomplishment I get	4.11	0.90	4.21	0.97	4.00	1.00	3.64•	1.14	3.93	1.03
	(n=92)		(n=14)		(n=19)		(n=77)		(N=202)	

Notes: * Intrinsic items; 12 with score range 12-60. ø Extrinsic items; 6 with score range 6-30. + Lowest mean score for each type. • Lowest mean score for each item. Total score: 20 items with score range 20-100

Table 5 presents means and standard deviations for the Intrinsic score, the Extrinsic score and the Total score by type and for the entire sample. The means for concentrators and energizers are both above the total mean while the means for inducers and producers are below the total mean. This is consistent for both Intrinsic and Extrinsic scores.

Table 5

Mean Score and Standard Deviation for Intrinsic, Extrinsic and Total Scores on the Minnesota Satisfaction Questionnaire (Short Form)

Work Behavior Type	Intrinsic Items		Extrinsic Items		Total by Type	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Concentrator	49.68	6.54	19.16	5.1	76.23	11.94
Energizer	50.64	7.04	18.43	5.49	75.86	13.24
Inducer	48.47	6.21	15.89	4.05	71.05	9.03
Producer	46.65	7.24	17.39	4.97	70.78	12.55
Total: All Groups	48.48	6.94	18.13	5.07	73.64	12.25

Note: Intrinsic score range 12-60 for 12 items; Extrinsic score range 6-20 for 6 items; Total score range 20-100 for 20 items.

The lowest mean score for intrinsic items, or those related to job content, is that of the producers while the lowest mean score for extrinsic, or job context, items is that of the inducers. Overall, concentrators had the highest total mean score, 2.59 above the all group total, while producers had the lowest total mean score, 2.86 below the group total.

Question Three: Do factors derived from a factor analysis of the MSQ show characteristics of motivators and hygienes?

In Herzberg's two-factor theory of job satisfaction/job dissatisfaction, motivators correspond to Maslow's higher-order needs. They are intrinsic or job content factors, such as achievement, recognition, advancement, responsibility and the inherent interest of the work itself. When these factors are present in a job, they act as satisfiers because they have a positive effect on employee job satisfaction and they may function to provide the individual with personal psychological growth.

Hygienes correspond to Maslow's lower-order needs and are extrinsic, or job context factors, such as pay, security, supervision and physical working conditions. When absent from a job, these items are linked to job dissatisfaction.

The MSQ provides an Intrinsic, or job content, and an Extrinsic, or job context, score. As indicated on Table 4, the intrinsic items on the MSQ are numbers 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16 and 20. With the exception of 2 (freedom to work alone) and 8 (opportunity for steady employment), two of Herzberg's hygienes, these items all correspond to Herzberg motivators. The extrinsic, or job context items, on the MSQ are numbers 5, 6, 12, 13, 14 and 19. The first 4 and 19 correspond to Herzberg hygienes. The exception is 14 (advancement on current job). Numbers 17 (working conditions) and 18 (relationships of co-workers) correspond to Herzberg hygienes. In the MSQ, they contribute to an overall general score.

Table 6 shows factor loadings on the MSQ. Factor I includes items 5, 6, 12, 19, 18, 17, 13 and 8. These all correspond to Herzberg hygienes, or job context items, with the exception of the last item, number 8 (steady employment), which has the lowest factor loading for Factor I, 0.308. In MSQ scoring, number 8 is characterized as an Intrinsic item. The other items in Factor I are part of the Extrinsic score.

Table 6

Factor Loading on Job Satisfaction Items from the Minnesota Satisfaction
Questionnaire (Short Form)

MSQ Item Number	Factor I	Factor II	Factor III
5	0.70157	-0.13713	0.11158
6	0.69630	-0.22041	0.11110
12	0.59752	0.09730	-0.03583
19	0.57007	0.21418	-0.13415
18	0.47441	0.11522	-0.08747
17	0.45858	0.16487	0.18808
13	0.38671	0.29018	-0.12743
8	0.30778	0.10257	0.06334
9	-0.00164	0.63928	-0.10148
11	-0.04466	0.55972	0.29152
10	-0.02269	0.52428	-0.02346
20	0.16444	0.47476	0.20258
4	0.10487	0.47332	0.15867
14	0.31146	0.44883	-0.13036
3	-0.11126	0.42545	0.37365
2	0.00205	-0.22953	0.71932
1	-0.15959	0.16746	0.53505
7	0.29114	0.16151	0.44019
15	0.12019	0.26234	0.41843
16	0.16303	0.26466	0.40113
N=202			

Notes: Factor I (items 5, 6, 12, 19, 18, 17, 13, 8); Factor II (items 9, 11, 10, 20, 4,
14, 3); Factor III (items 2, 1, 7, 15, 16); Variance explained by: Factor I, 2.639930;
Factor II, 2.306518; Factor III, 1.759460.

Factor II includes items 9, 11, 20, 4, 10, 14 and 3 which are all Herzberg motivators, or job content items. They are all part of the MSQ Intrinsic score, except number 14 (opportunity for advancement). This item shows a loading of 0.449 in Factor II and a loading of 0.311 in Factor I.

Factor III includes items 2, 1, 7, 15, and 16. They all form part of the MSQ Intrinsic score and, except for item 2 (opportunity to work alone) are all Herzberg motivators.

Thus, the factors derived from a factor analysis of the MSQ do show characteristics of motivators and hygienes. Factor I includes eight MSQ items, all related to Herzberg hygienes. Factor II includes seven items which all relate to Herzberg motivators. Finally, Factor III includes five items, four of which are motivators while one is a hygiene.

Question 4: Do the different work behavior type scores of academic librarians in Florida, as measured by the MPPP, relate differently to the motivator and hygiene scores derived from the MSQ?

In order to analyze the relationship between scores on the MSQ and work behavior types, the technique of canonical correlation was employed. Given two sets of variables, a computer analysis finds a linear combination from each set, the canonical variable, which leads to the maximization of the correlation between the two canonical variables. This results in the first canonical correlation. "The coefficients of the linear combinations are canonical coefficients or canonical weights. It is customary to normalize the canonical coefficients so that each canonical variable has a variance of one." (SAS/STAT User's Guide, 1989, p. 368). The procedure then finds a second set of canonical variables, a third, and so on, until the number of pairs of canonical variables equals the number of variables in the smallest group. The variables which follow the first canonical variable are not correlated with the first pair nor are any subsequent canonical variables. This is, "each canonical

variable is not correlated with all the other canonical variables of either set except for the one corresponding canonical variable in the opposite set" (ibid.). Finally, the first canonical correlation will be at least as large as the multiple correlation between any variable and an opposite set of variables.

The correlations between individual items on the Minnesota Satisfaction Questionnaire and the four work behavior types as determined by the Marcus Paul Placement Profile are shown in Table 7.

The correlations between the four work behavior types and individual items on the MSQ are weak with the largest in absolute value being a negative correlation (-0.2772) between Producer and MSQ item four, "chance to be somebody in the community."

Following the factor analysis procedure on the MSQ, correlations between work behavior type and the three factors derived from the MSQ were established. These are illustrated in Table 8. Again, the correlations are weak. The largest in absolute value is 0.1952 for Concentrator to Factor I (hygiene or job context items; elements in the MSQ extrinsic score). This is closely followed by a negative correlation (-0.1944) for Producer to Factor II (motivator or job content items, elements in the MSQ Intrinsic Score).

The within-set correlations are larger as can be seen in Table 9 with the largest in absolute value being 0.6798 for Factor II to Factor III. Closely following is a negative correlation, -0.6769, for Concentrator to Energizer.

The canonical correlations of the three factors and the four work behavior types are shown in Table 10.

Table 7

Simple Correlations Between MSQ Items and Work Behavior Types

MSQ Item	Concentrator	Energizer	Inducer	Producer
1	-0.0463	0.0956	0.0728	-0.0715
2	-0.0877	0.0883	0.0464	-0.0809
3	0.0361	-0.2160	0.1254	-0.1169
4	0.0541	0.0746	0.2260	-0.2772
5	0.1145	-0.1086	0.0217	-0.0169
6	0.1042	-0.0989	-0.0402	-0.0536
7	0.1149	-0.0592	0.0799	-0.0625
8	0.0685	-0.0194	0.0828	-0.0769
9	0.1349	-0.0027	0.1739	-0.2259
10	0.0419	0.0256	-0.0338	0.0234
11	0.1853	-0.0225	0.0341	-0.1328
12	0.1703	-0.0821	-0.0553	-0.0094
13	0.1243	-0.0848	0.0349	-0.0438
14	0.1747	-0.1155	0.0577	-0.0050
15	0.1352	-0.0204	0.0129	-0.0867
16	0.1061	-0.0051	0.0596	-0.1197
17	0.1704	-0.0440	0.0124	-0.0994
18	0.1170	-0.1206	0.0662	0.0128
19	0.1767	-0.0808	0.0314	-0.0535
20	0.1478	0.0049	0.1221	-0.2368

Table 8

Correlation Between the Three Factors on the MSQ and Work Behavior Type

	Concentrator	Energizer	Inducer	Producer
Factor I	0.1952	-0.1210	0.0251	-0.0406
Factor II	0.1640	-0.0170	0.1415	-0.1944
Factor III	0.0671	0.0241	0.0746	-0.1167

Table 9

Within-Set Correlations Among the Original Variables

Factors Derived from the MSQ			
	I	II	III
I	1.0000	0.6398	0.5987
II	0.6398	1.0000	0.6798*
III	0.5987	0.6798*	1.0000
Work Behavior Types Determined by the MPPP			
	Energizer	Inducer	Concentrator	Producer
Energizer	1.0000	0.0860	-0.6769*	-0.5249
Inducer	0.0860	1.0000	-0.2839	-0.6160
Concentrator	-0.6769*	-0.2839	1.0000	0.1599
Producer	-0.5249	-0.6160	0.1599	1.0000

Note: * = Largest Within-Set Correlations

Table 10

Canonical Correlations of Factors and Work Behavior Types

	Canonical Correlation	Likelihood Ratio	Approx. F	Num. DF	Den DF	Pr>F
1	0.307768	0.87429520	2.2406	12	516.213	0.0092
2	0.183698	0.96577476	1.1476	6	392.000	0.3340
3	0.022292	0.99950308	0.0490	2	197.000	0.9522

p = .05

The first canonical correlation is 0.3078. The first squared canonical correlation is 0.0947. The probability level for the first canonical correlation is 0.0092. Thus, the first canonical correlation is significantly different from zero at the .05 level. The second and third canonical correlations were not considered as probability levels provided no evidence that they are different from zero.

Table 11

First Canonical Correlational Analysis: Canonical Coefficients

Standardized Canonical Coefficients			
MSQ Factors	Canonical Variables		
	1	2	3
I	0.0074	-1.3271	0.2966
II	1.1689	0.4286	-0.8096
III	-0.2881	0.6935	1.2111
Work Behavior Type	Canonical Variables		
	1	2	3
Energizer	0.6984	1.0139	1.3896
Inducer	0.7709	0.4893	-0.1832
Concentrator	1.2547	0.0135	1.0727
Producer	0.0106	0.2308	0.6267

Table 12

First Canonical Correlational Analysis: Canonical Structure

	Correlations Between MSQ Factor Variables and MSQ Factor Canonical Variables		
MSQ Factors	1	2	3
I	0.5287	-0.6377	0.5038
II	0.9778	0.0509	0.2035
III	0.5109	0.1902	0.8383
	Correlations Between WBT Variables and WBT Canonical Variables		
Work Behavior Type	1	2	3
Energizer	-0.0901	0.9256	0.3188
Inducer	0.4683	0.4305	-0.7541
Concentrator	0.5648	-0.7747	0.2844
Producer	-0.6302	-0.6006	0.1816

As shown on Table 11, the first canonical variable for the MSQ factor variables is a weighted difference of FACTOR II (1.1689) and FACTOR III (-0.2881) with more emphasis on FACTOR II. The coefficient for FACTOR I is near zero. In Table 12, the correlations between FACTORS I, II and III are all positive. FACTOR III is a suppressor variable as its coefficient and correlation have opposite signs. A suppressor variable enhances the correlation between the other variables.

In Table 11, the first canonical variable for the work behavior type variables indicates greatest emphasis on Concentrator (1.2547), followed by Inducer (0.7709) and Energizer (0.6984). The coefficient for Producer is near zero. Two of the correlations between work behavior type, as shown in Table 12, are positive, Inducer (0.4683) and Concentrator (0.5648) while one, Producer, is negative (-0.6302) and Energizer, although near zero, is also negative. Thus, for work behavior type, Energizer and Producer are suppressor variables.

The general interpretation of the first canonical correlation is, therefore, that FACTOR III and Producer act as suppressor variables to enhance the correlation between FACTOR II and Concentrator. Factor II includes seven items which are all Herzberg motivators (job content). Six of the seven are part of the MSQ Intrinsic Score. Concentrators, the largest work behavior type group, have the highest total mean score, 76.23, on the MSQ.

The canonical redundancy analysis shows that neither of the first pair of canonical variables is a good overall predictor of the opposite set of variables. The cumulative proportion of variance explained by the first FACTOR canonical variable to the first Work Behavior Type canonical variable is 0.0491 while the cumulative proportion of variance of the first Work Behavior Type canonical variable explained by the first FACTOR canonical variable is even lower at 0.0223.

The squared multiple correlations indicate very limited predictive power. The first canonical variable of the FACTORS has minor predictive power for FACTOR II (0.0906), less for FACTOR I (0.0322), and even less for FACTOR III (0.0247). The first canonical variable of Work Behavior Type shows almost no predictive power with the highest correlation, Producer (0.0376), followed by Concentrator (0.0302) and Inducer (0.0208). Energizer is almost zero; this was also the smallest sample group ($\underline{n}$=14), followed by Inducer ($\underline{n}$=19).

In addition to determining correlations between work behavior type and the 3 factors derived from the MSQ, a second set of canonical correlations was established between the 20 individual MSQ items and the 4 work behavior types. The correlations between individual MSQ items and Work Behavior Type are shown on Table 13.

As with the correlations displayed in Table 7 and Table 8, the correlations are weak. The largest in absolute value is MSQ item 4 (social status) to Producer (-0.2772) followed by MSQ item 20 (achievement) to Producer (-0.2368) and MSQ item 4 (social status) to Inducer (0.2260).

The canonical correlations of the 20 MSQ items and the 4 work behavior types are shown in Table 14. The first canonical correlation is 0.4457; squared, it is 0.1986. The probability level for the first canonical correlation is 0.0824. Thus, there is some evidence that the correlation is different from zero at the .05 level. The remaining correlations were not considered further as probability levels provided no evidence that they are significantly different from zero.

As shown in Table 15, the first canonical variable for the MSQ item variables is a weighted difference of items 3 (-0.1196), 6 (-0.4239), 10 (-0.2798), 11 (-0.2088), 12 (-0.3533) and 15 (-0.2053) and items 4 (0.6927), 5 (0.1859), 9 (0.3205),

16 (0.1868), 17 (0.1464) and 20 (0.6094). The coefficients for items 1, 2, 7, 8, 18 and 19 are near zero.

Table 13

Correlations Between the MSQ Items and Work Behavior Type

MSQ Item	Energizer	Inducer	Concentrator	Producer
1	0.0956	0.0728	-0.0463	-0.0715
2	0.0883	0.0464	-0.0877	-0.0809
3	-0.0216	0.1254	0.0361	-0.1169
4	0.0746	0.2260	0.0541	-0.2772
5	-0.1086	0.0217	0.1145	-0.0169
6	-0.0989	-0.0402	0.1042	-0.0536
7	-0.0592	0.0799	0.1149	-0.0625
8	-0.0194	0.0828	0.0685	-0.0769
9	-0.0027	0.1739	0.1349	-0.2259
10	0.0256	-0.0338	0.0419	0.0234
11	-0.0225	0.0341	0.1853	-0.1328
12	-0.0821	-0.0553	0.1703	-0.0094
13	-0.0848	0.0349	0.1243	-0.0438
14	-0.1155	0.0577	0.1747	-0.0050
15	-0.0204	0.0129	0.1352	-0.0867
16	-0.0051	0.0596	0.1061	-0.1197
17	-0.0440	0.0124	0.1704	-0.0994
18	-0.1206	0.0662	0.1170	0.0128
19	-0.0808	0.0314	0.1767	-0.0535
20	0.0049	0.1221	0.1478	-0.2368

Table 14

Canonical Correlations of MSQ Items and Work Behavior Type

	Canonical Correlation	Likelihood Ratio	Approx. F	Num. DF	Den DF	Pr>F
1	0.445665	0.59386556	1.2438	80	704.6091	0.0824
2	0.353930	0.54105121	0.9916	57	534.5465	0.4959
3	0.304046	0.84717359	0.8646	36	360.0000	0.6943
4	0.257940	0.93346691	0.7589	17	181.0000	0.7381

$p = .05$

Table 15

Second Canonical Correlational Analysis: Canonical Coefficients

Standardized Canonical Coefficients				
MSQ Item	1	2	3	4
1	-0.0854	-0.1367	0.0356	0.4333
2	-0.0696	-0.4110	-0.0516	0.1491
3	-0.1196	-0.3429	-0.0560	-0.5226
4	0.6927	-0.3876	0.3857	0.3027
5	0.1859	-0.2389	-0.1382	-0.6564
6	-0.4239	0.1199	-0.0683	0.0682
7	0.0574	0.1571	0.3907	-0.3202
8	0.0817	0.0111	0.0469	-0.0307
9	0.3205	0.1239	0.0519	-0.0116
10	-0.2798	-0.0729	0.2207	0.3438
11	-0.2088	0.8486	-0.2404	0.2390
12	-0.3533	0.2533	-0.3645	0.2249
13	-0.0529	0.1024	-0.1504	-0.2740
14	-0.0734	0.2744	0.5954	-0.3223
15	-0.2053	0.2744	-0.2746	0.3373
16	0.1868	-0.2418	0.1245	-0.0053
17	0.1464	0.2057	-0.3360	0.2788
18	-0.0762	0.0882	0.4636	-0.3095
19	0.0493	0.2249	0.0976	0.3288
20	0.6094	-0.3335	-0.5026	-0.2628
Canonical Variables				
Work Behavior Type	1	2	3	4
Energizer	0.0850	0.7549	1.6485	1.7854
Inducer	0.3756	0.3739	1.9233	0.2201
Concentrator	0.3969	1.4591	1.1593	0.9162
Producer	-0.7171	0.6544	2.0194	0.7173

In Table 16, the correlations between MSQ items are all positive with the exception of items 6 and 10. The canonical variables for Work Behavior Type, shown in Table 15, indicate greatest emphasis on Producer (-0.7171) followed by Concentrator (0.3969) and Inducer (0.3756). The coefficient for Energizer is near zero. Three of the correlations between Work Behavior Type, shown in Table 16, are positive, Energizer (0.2251), Inducer (0.7120) and Concentrator (0.1181) while one, Producer is negative (-0.9296). As coefficient and correlation signs are the same, there are no suppressor variables to enhance the correlation between the other variables.

The canonical redundancy analysis shows that neither of the first pair of these canonical variables is a good overall predictor of the opposite set of variables. The cumulative proportion of variance explained by the first MSQ item canonical variable to the first work behavior type canonical variable is 0.0215, while the cumulative proportion of the variance of the first work behavior type canonical variable explained by the first MSQ factor variable is 0.0713.

The squared multiple correlations indicate very limited predictive power. The first canonical variable of the MSQ items has minor predictive power for item 4 (social status, 0.0970), less for item 9 (social service, 0.0787) and still less for item 20 (achievement, 0.0755). The remaining items show even lower predictive power. The first canonical variable of WBT shows minor predictive power for the Producer correlation (0.1716), followed by Inducer (0.1007). There is almost no predictive power for Energizer (0.0101). Concentrator, the largest subject group, is almost zero (0.0028). Thus, both the first MSQ item canonical variables and the first WBT canonical variable show only slight predictive power.

Table 16

Second Canonical Correlational Analysis: Canonical Structure

Correlations Between MSQ Item Variables and MSQ Item Canonical Variables				
MSQ Item	1	2	3	4
1	0.1533	-0.0424	0.3274	0.3605
2	0.1080	-0.2738	-0.0992	0.1145
3	0.3218	0.0189	0.0372	-0.2394
4	0.6988	0.1082	0.1994	0.1306
5	0.1267	0.2318	-0.1277	-0.3739
6	-0.0462	0.2752	-0.0371	-0.1998
7	0.2591	0.3165	0.2077	-0.1069
8	0.2509	0.1863	0.1687	-0.0342
9	0.6296	0.3165	0.0996	-0.0191
10	-0.0240	0.2348	0.2400	0.3620
11	0.4031	0.5065	-0.0816	0.1626
12	0.1044	0.4514	-0.2077	-0.0362
13	0.1945	0.2876	-0.0555	-0.2373
14	0.1903	0.5257	0.3718	-0.1434
15	0.2669	0.3672	-0.0893	0.1091
16	0.3364	0.2682	-0.0411	0.0594
17	0.3138	0.4378	-0.1712	0.0345
18	0.1163	0.3188	0.2962	-0.3270
19	0.2545	0.4903	0.0789	-0.0535
20	0.6164	0.3108	-0.2102	0.0047
Correlations Between WBT Variables and WBT Canonical Variables				
Work Behavior Type	1	2	3	4
Energizer	0.2251	-0.5441	-0.0306	0.8077
Inducer	0.7120	-0.3785	0.4921	-0.3282
Concentrator	0.1181	0.9467	-0.1796	-0.2400
Producer	-0.9296	0.2612	0.1547	-0.2090

Summary of Results and Analysis

The results and analysis of this study are presented in Chapter IV along with answers to the research questions set forth in Chapter I. Following a description of the sample population and the presentation of demographic data for the 202 subjects, analysis, including frequency distribution, factor analysis and canonical correlation is reported. Specifically, findings support the theory that individuals with different work behavior types are attracted to different professions. Work behavior type of academic librarians was also related to specific areas of job satisfaction and dissatisfaction. In addition, factor analysis indicated consistency from this subject pool to Herzberg's two-factor theory of motivators and hygienes. Work behavior type was significantly related to Factor II, which was made up almost entirely of items corresponding to Herzberg motivators, or job content items. It was found that work behavior type is not significantly related to individual job satisfaction items, although some differences among types were revealed. It was expected that no particular work behavior type would rate all areas of a position as satisfactory but, in general, that there would be differences among the four types. The results support this and are consistent with findings reported in the research literature.

Following this chapter, a summary of the study is presented. In addition, implications of the study and recommendations for further research are set forth.

CHAPTER V
SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Perfect freedom is reserved for the man who lives by his own work and in that work does what he wants to do.
(Collingwood, 1924)

Research Problem and Procedures

The problem of this study was to determine work behavior types, the perceived motivators and hygienes related to work environment and the relationship between these two constructs for academic librarians in Florida. More specifically, answers were sought to the following questions:

1. What are the work behavior types of academic librarians in Florida as measured by the Marcus Paul Placement Profile (MPPP)?

2. What are the motivators and hygienes perceived by academic librarians in Florida as reported on the Minnesota Satisfaction Questionnaire (MSQ)?

3. Do factors derived from a factor analysis of the MSQ show characteristics of motivators and hygienes?

4. Do the different work behavior type scores of academic librarians in Florida, as measured by the MPPP, relate differently to the motivators and hygienes score derived from the MSQ?

The literature provided much information and data on job satisfaction in general with a substantial amount related to satisfaction studies of librarians. Less information and data were available on work behavior types although an extensive and somewhat contradictory literature related to studies on the personality of librarians was reviewed. No information or data

were available which were specifically related to the relationship of work behavior types and job satisfaction/dissatisfaction of academic librarians in Florida.

The MSQ was used to measure job satisfaction and job dissatisfaction. The MPPP was used to determine work behavior types.

To obtain answers to the research questions, the MSQ and MPPP instruments were administered to 350 individuals identified as academic librarians living in Florida. Of these, usable data were provided by 202 (57.7 percent) academic librarians currently employed in post-secondary institutions in Florida. Demographic information indicated that the majority of the participants, 145, were female (71.78 percent).

Data from the two instruments were analyzed using frequency distributions, chi-square, factor analysis, and canonical correlations. Frequency distributions were used to determine work behavior types of academic librarians in Florida. The chi-square test was used to determine if academic librarians' work behavior types are different from the normal distribution.

The motivators and hygienes perceived by academic librarians in Florida were determined through factor analysis of the MSQ. The relationship of work behavior type to motivators and hygienes was analyzed by canonical correlation. Two procedures, one related to the factors determined by the factor analysis and one to individual items on the MSQ, were performed.

The literature of academic librarianship frequently includes discussion concerning the changing nature of the profession. Lauer (1989) stressed that librarianship is a social, rather than solitary, profession. Those who do not have the ability to communicate effectively, who have little interest in management and planning, who avoid controversy to the extent that their

occupational creativity is stifled and who lack leadership qualities may find that academic librarianship is an inappropriate career choice. Black (1989) reported evidence of a frustration level for mid-career librarians which may indicate disharmony between personality traits or work behavior and career demands. According to Slater (1979), we should "screen and warn entrants to the profession. Tell them what it is really all about. Encourage the painfully shy and the anti-social to seek other occupations (in which they will be happier)" (p. 18). Agada (1984) advocated a focus in studies on behavior reactions of personality types in the context of specific job experiences. Further, after discussing the self-effacing and non-assertive stereotype of librarians, as reported in the studies he reviewed, Agada suggested that an evaluation of library education and training programs along with revised position design and adjustments in work environments could remedy the presence of inappropriate traits and attitudes among library professionals.

Although individuals leave jobs for a variety of reasons, including many positive ones, a certain number of positions are vacated because of a mismatch between employee and job. Recruiting and training personnel are expensive as is the loss of time and productivity when an employee leaves a position. Remaining employees experience stress when established working relationships are disrupted and they may experience an increased workload, another factor in stress (Allison & Sartori, 1988). When a job-employee mismatch occurs, both administrator and employee feel a loss as each has experienced failure (Nickens, 1984).

A good match between organization and individual contributes to the health of both and is mutually beneficial. Matching an individual's work behavior type with characteristics of the work environment could promote job satisfaction, increase productivity and lead to a dynamic symbiosis.

Research Questions

<u>Research Question One</u>: What are the work behavior types of academic librarians in Florida?

In comparison to the general population which includes 60 percent concentrators and producers with producers predominant, 20 percent energizers and 20 percent inducers, this study showed academic librarians to be almost 84 percent concentrators and producers with concentrators predominant, about 7 percent energizers and about 9.5 percent inducers. Chi-square analysis showed strong evidence that these results are significantly different from those of the general population. This supports the theory that different work behavior types are attracted to different professions.

When analyzed by gender, some differences in distribution were seen. Females were more strongly concentrators and producers (86 percent) than males (77 percent). Although concentrator still predominated for either sex, only 6.2 percent of the females were energizers while 7.6 percent were inducers. Male energizers constituted 8.8 percent and male inducers 14 percent of the male subjects. Compared with 20 percent energizers and 20 percent inducers in the general population, all these results, with the exception of that for male inducers, are significantly lower than would be expected.

When compared to other studies on work behavior type, the distribution of academic librarians by type was closest to that reported by Wellstood (1984/1985). Her study of medical technologists reported 52.3 percent producers, 33.3 percent concentrators, 7.2 percent inducers, and 7.2 percent energizers. The only significant difference concerned the distribution of concentrators and producers; the totals were almost identical but the individual numbers of the two types were reversed. This indicates some

similarity in the type of person attracted to these two different professions. Concentrators and producers work to maintain their organization in its present form. They follow rules and regulations, like to work alone or at least at their own pace and may be resistant to change. Although this may be appropriate for laboratory technicians, who must be precise and follow careful procedures and who may need to work uninterrupted, it does not necessarily fit the dynamic and rapidly changing environment of an academic library. Energizers, who embrace challenges, welcome change and exhibit bold behavior, along with the charming and convincing inducers, would appear to be both sorely underrepresented among academic librarians and needed by the profession.

The analysis of demographic data showed that 69 percent of the respondents were 40 to 59 years old and that 64 percent had been in the profession for 11 years or more. They fit into Black's (1981) group of mid-career librarians who showed evidence of job frustration and a fissure between their work behaviors and position demands.

<u>Research Question Two</u>: What are the motivators and hygienes perceived by academic librarians in Florida as reported on the Minnesota Satisfaction Questionnaire (MSQ)?

The MSQ measures Intrinsic, or job content, and Extrinsic, or job context, items. These are analogous to Herzberg's motivators and hygienes. The three scores provided by the MSQ include an Intrinsic score, and Extrinsic score, and a General Satisfaction, or total score. Higher scores by area or a higher total score imply a greater degree of job satisfaction with job content, job context, or in general. Inducers and producers had the lowest mean scores on 19 of the 20 items with producers mean scores below the total mean on all 20 items. Producers were lowest on the total, or General Satisfaction score,

with an Intrinsic (motivator), or job content, score lower than the three other types. Inducers were lowest on the Extrinsic (hygiene) or job content score and below the mean on the total, or General Satisfaction, score.

Producers are comfortable following procedures and guidelines. They prefer clear directions, will follow orders, meet deadlines and produce precise, thoroughly documented results. Given the changing dynamics in procedures and activities associated with the current academic library environment, the somewhat lower degree of satisfaction of producers with job content factors could be anticipated. On the other hand, energizers, who are assertive, creative, impatient with detail and direct in their approach to the pursuit of goals, score highest of the four types on Intrinsic or job content items. The dynamic and changing responsibilities associated with the modern academic library would be challenging to these individuals and would allow them to exercise their skill in planning and their interest in the improvement of work processes.

Inducers like to use group processes to accomplish goals, place more emphasis on people and interpersonal relations than on organizations and are sensitive to the needs of associates. They had the lowest mean score on Extrinsic (hygiene) or job context items such as the amount of praise given for work well done, advancement opportunities, company policies, supervisor abilities and administrative decisions. Concentrators, who are orderly and steady in their approach to work, loyal to their organization and systematic in productivity had the highest mean score on the Extrinsic, or job context, items. These results may indicate that inducers find their work satisfying but the way in which changes occur are less satisfying to them.

Research Question Three: Do factors derived from a factor analysis of the MSQ show characteristics of motivators and hygienes?

Factor analysis of responses to the MSQ do show characteristics of motivators and hygienes. With the exception of "freedom to work alone" and "opportunity for steady employment" the 12 items on the Intrinsic (job content) scale of the MSQ all correspond to a Herzberg motivator. Five of the six items on the Extrinsic (job context) scale of the MSQ correspond to Herzberg hygienes along with two items the MSQ uses to determine the General Satisfaction score ("working conditions" and "relationship with co-workers"). The exception is "advancement on current job," a Herzberg motivator.

The factor loadings on the MSQ show that Factor I includes eight items. These all correspond to Herzberg hygienes with the exception of the last item in the sequence, "steady employment." In MSQ scoring, seven of these eight items, again with the exception of the last item, are part of the Extrinsic score.

Factor II includes seven items which all correspond to Herzberg motivators. Six of the seven are part of the MSQ Intrinsic score. The final five MSQ items loaded on Factor III. These all form part of the MSQ Intrinsic score and, with the exception of "opportunity to work alone," are Herzberg motivators.

Research Question Four: Do the different work behavior type scores of academic librarians in Florida, as measured by the MPPP, relate differently to the motivator and hygiene scores derived from the MSQ?

In order to analyze the relationship between MSQ scores and work behavior types, data were analyzed by canonical correlation. Given two or more sets of variables, this analysis leads to the canonical variable of each set and maximizes the correlation between the variables. The simple

correlations between the four work behavior types and individual MSQ items were weak. In addition, correlations between work behavior type and the three factors derived from the factor analysis of the MSQ were also weak. However, the largest correlations in absolute value were 0.1952 for concentrator to Factor I (MSQ extrinsic items; Herzberg hygienes or job context items) and a negative correlation of -0.1944 for producer to Factor II (MSQ Intrinsic items; Herzberg motivators; job content items). Factor III is also made up of MSQ Intrinsic items (Herzberg motivators or job content items) and producers had both the strongest correlation, in absolute value, and the only negative correlation (-0.1167).

The general interpretation of the first canonical correlation is that the strongest relationship is between Factor II (Herzberg motivators or job content items) and concentrators. The first canonical correlation is significantly different from zero at the .05 level and is even significant at the .01 level.

A second set of canonical correlations was established between the 4 work behavior types and the 20 individual MSQ items. As with the canonical correlations for work behavior type to the three factors, the correlations are weak. Eight of the 12 items whose weighted differences make up the first canonical variable for the MSQ item variables are motivator, or intrinsic, items. The canonical variables for work behavior type indicate greater emphasis on producer (-0.7171). There is some evidence that the correlation is different from zero at the .05 level. There is a weak to moderate relationship between work behavior type and "social status," "social service" and "achievement." Finally, there is a weak to moderate relationship between producer and intrinsic, or job content, items on the MSQ.

Implications

Work Behavior Type

Job dissatisfaction is costly to individuals and organizations. High turnover rates, low employee morale and a feeling of failure on the part of both administrator and worker can be the result of a mismatch between a job and an employee. The work behavior type of an individual may be a factor in his or her adaptation to a particular work environment or specific job. If an employee were placed in a work situation consistent with his need for structure, supervision, autonomy, recognition and contact with other people, satisfaction might increase and attrition be reduced.

There are several implications of the findings of this study for personnel management in academic librarianship. Specific areas to which these findings could make a contribution include recruitment and education for the profession, job placement, professional development and training, administrator management style and team building.

Determining the work behavior type of students enrolled in graduate library science programs could be useful in allowing inappropriate traits or outmoded behaviors to be recognized and curriculum to be developed to help students strengthen those qualities identified as important to employment as academic librarians. The method of instruction should differ for the various work behavior types. For example, producers prefer structure, step-by-step instructions and organization, while inducers prefer group interaction as part of an instruction method. Although quotas by type are not advocated, the predominance of concentrators and producers in the sample studies would indicate some recruitment of inducers and energizers could be useful to the profession as a whole. According to Woodsworth and Lester (1991), the profession needs to both recruit and nurture self-confident change agents and

potential leaders. "There must be recognition among current research librarians and library educators of the need for more staff who are both entrepreneurial and intrapreneurial, and fewer who just do as they are told" (p. 208).

In the area of job matching, the component of work behavior type, when added to the professional qualifications of the prospective employee and the technical requirements of the job, could be a useful factor in placement decisions. If employees are placed in positions which meet their needs for degree of structure or autonomy, individual or group work and supervision or recognition, worker effectiveness and satisfaction could be maximized.

Professional development and training could be more effective if work behavior type was considered. This is an area which can lead to increased employee satisfaction and, from management's point of view, is an investment made to increase employee skills, effectiveness and productivity. Knowledge of work behavior type could be used to select specific participants for particular training programs and in designing programs that use varied learning and training methods. Based on research into work behavior type, it can be assumed that different work behavior types would respond to different training methods. For example, producers might prefer training that is organized, with clearly defined course objectives, precise and pre-determined methods of evaluation, written materials and logical step-by-step instruction. A self-paced learning method would be a possible choice for this group, in contrast to inducers, who would react favorably to a less-structured format with opportunities for involvement with other people. They would react well to an innovative training approach. Energizers could thrive in a competitive atmosphere, responding well to role-playing, "games" and other methods that would allow them to take charge and make use of their

forcefulness and independence. Concentrators would probably prefer an orderly and comfortable training approach but their easy-going, accepting and reasonable nature would make them willing to try a variety of methods suggested by administrators. As they are generally attentive, disciplined and exacting, they could benefit from a variety of instructional methods.

If administrators understand that the needs of individuals within a job environment differ, both initial hiring decisions and future task assignment will be more effective. Some individuals are process oriented and are predisposed to active, external orientations (energizers and inducers) while others are product oriented, are more passive and internal (producers and concentrators). The different needs of individuals are not related to skill, intelligence or competence but are simply modes in which they feel comfortable. Thus, different management styles will be more effective with different work behavior types. For example, energizers and inducers would react favorably to participatory management while producers, who want everything spelled out clearly, might find it frustrating.

Some of the work in academic libraries is done by teams or task forces. Selecting team members with different work behavior types could allow members to focus on those areas of the assignment which they find most satisfying thus maximizing the productivity of the entire team. However, it is not clear what particular mix of types would be most effective or whether some tasks would be better performed by more homogeneous groups.

Consistent with a review of the literature on work behavior type, the theory was supported by this study. Almost 84 percent of academic librarians had two work behavior types as their primary orientation. These two types were consistent in description with personality traits reported in earlier research studies of librarians. In addition, possible relationships between MPPP scores and Myers-Briggs Type Indicator (MBTI) scores of librarians

(Webb, 1990) appear to be consistent with relationships reported by Glenn (1982/1983), in particular the significant relationship between MPPP energizer scores and MBTI intuitive and perceptive scores, and MPPP producer scores and MBTI introvert, sensing and judging scores. According to the Center for the Application of Psychological Type (CAPT), the 267 people in CAPT's 250,000-person database who listed their occupation as "librarian" showed the following preferences: Introverted (61 percent); Sensing (54 percent); Feeling (67 percent) and Judging (64 percent). The ISFJ type accounts for approximately six percent of the population of the United States. It should be noted that the sample group's ISFJ preference is not particularly strong (Webb, 1990). However, the characteristics associated with the ISFJ type (quiet, friendly, responsible, conscientious, thorough, painstaking, accurate, loyal, considerate and willing to work devotedly to meet their obligations) (ibid) are consistent with Marcus Paul Placement Profile trait lists for concentrators (for example, committed, considerate, disciplined, loyal, orderly, patient, respectful, steady and trusting) and producers (for example, accurate, careful, cautious, compliant, conforming, devoted, exacting, follows orders, follows procedures, precise, respectful, responsible and systematic) (Nickens, 1984).

It is important to remember that human beings are complex and multi-faceted entities. The tendency toward one of four work behavior types is just one aspect of an individual.

Job Satisfaction/Dissatisfaction

Factor loadings from MSQ scores showed strong evidence of Herzberg motivators and hygienes and were almost perfectly divided between intrinsic and extrinsic items. Taken in conjunction with the mean score by type for Extrinsic, Intrinsic, and total, or General Satisfaction, MSQ scores, some implications can be seen.

Concentrators were most satisfied with both dimensions of their jobs. Given the loyalty and adaptability of individuals with a preference for this work behavior type, the changing dynamics of the academic library at the end of the 20th century would be accepted and although they might not produce the ideas and new practices needed to cope with change, they appear to be well satisfied with their jobs and quite able to continue to contribute to the profession.

Energizers were particularly satisfied with the intrinsic (motivator or job content) aspects of their positions, a finding consistent with their willingness to try new things, generate solutions and act decisively.

The implication for academic libraries is to meld the strengths of these two types, while continuing to provide an environment conducive to their job satisfaction. The lowest score on the MSQ was "my pay and the amount of work I do" for concentrators and "chances for advancement" for energizers. Pay is a constant area of concern in libraries in general. The results of this study show that all subjects were concerned with low salaries. However, only concentrators showed this as their least satisfied work item. Advancement opportunities were also sources of dissatisfaction for all types, but particularly for energizers who show leadership characteristics but may find few opportunities to use them. Dissatisfaction with pay and advancement opportunities has long been reported in the literature. This is the first study to tie these items to work behavior type.

Producers and inducers were less satisfied on both Intrinsic and Extrinsic MSQ scores as well as on the General Satisfaction or total score. Inducers were reasonably satisfied with job content items. This is consistent with their work behavior traits and the changing role of the academic library. However, they had the lowest mean score of all types on five of six extrinsic (job context or hygiene) items. Their lowest individual score related to

"company policies," the lowest score for any type on any item. Producers had the lowest total score of all types and the lowest intrinsic, or job content, score. Along with the inducers, "company policies" drew producer's lowest score. However, they also showed the least satisfaction of any type on 8 of 12 job content items. As producers are a significant group in academic libraries (38.12 percent of the sample), the effect of institutional change and position alteration on this type should be carefully assessed.

Recommendations for Further Research

Based on the findings of this study, the following recommendations for additional research were offered.

1. The study was limited by geography and included only academic librarians in Florida. Although Florida is a large state with a diverse population mix, the librarians sampled may not be representative of academic librarians in other areas of the country. Replication with academic librarians in another large, diverse state could be useful in confirming or questioning these results.

2. A replication of the study using a large national sample could be very useful. Sufficient subjects would allow work behavior type and job satisfaction to be broken out by position in an academic library (technical services, public services, systems, collection management, or subject specialization) as well as by administrator/non-administrator designation. Further, administrators could be divided into middle managers, such as department chairpersons, and system-wide managers, such as deans or directors.

3. The study examined work behavior type and job satisfaction for academic librarians in a cross-section of post-secondary institutions,

including college, community college, university and special libraries with an additional mix of public and private institutions both large and small. This was a deliberate decision for this study. However, studies focusing on a particular type of post-secondary institution, such as community colleges or research universities, could provide interesting and useful comparative data.

4. As stated earlier, the largest group of subjects was between 40 and 59 years of age and had been members of the profession for 11-20 years. It is recommended that the work behavior types of students enrolled in graduate library science programs and academic librarians with less than 10 years in the profession be sampled to determine their work behavior type. This would show whether any change has or is occurring in the type mix of prospective or newer members of the profession and would allow comparison with the mature and experienced group represented in this study.

5. Finally, other professional populations, such as college or university faculty, managers in business or industry, teachers, persons associated with the legal system, engineers and others with technical positions and health care professionals could be appropriate for a study of work behavior type and job satisfaction. Additional data related to job matching and productivity could result from such studies.

March 1, 1993

Dear Colleague:

I am writing to request your assistance in a research study designed to explore the areas of work-behavior theory and job satisfaction among academic librarians in Florida. As a library faculty member at the University of Florida, I designed the study and I believe it has the potential to provide useful information about the work environment of academic librarians.

Please complete the enclosed forms and return them to me in the envelope provided. The forms have been pre-tested and should take approximately 15 minutes of your time to complete. Instructions for the Marcus Paul Placement Profile (MPPP) and the Minnesota Satisfaction Questionnaire (MSQ) are printed on the respective forms. Please complete both the MPPP form and the MSQ form.

Please return all forms to me in the enclosed, stamped envelope by March 10, 1993. Even if you do not wish to participate, please return the blank forms to me in the envelope provided.

Vocational Psychology Research at the University of Minnesota is currently revising the MSQ manual and constructing new norm tables. Response statistics from this study will be included in the revision.

Your participation in this study is very important. It represents a first attempt to identify the work behavior types of academic librarians, through the MPPP, and to relate these types to job satisfaction.

Please answer all questions as honestly as you can. Your responses will be treated confidentially. All forms will be coded and the results of the study will be reported statistically to avoid any identification with individuals or institutions. Your name on the MPPP form will be used only to allow me to provide you with a copy of the MPPP report. If you do not wish to receive the MPPP report, it is not necessary to put your name on the MPPP form.

If you wish additional information about the completed study, please contact me separately at the address listed below.

Thank you for your assistance with this project.

Sincerely yours,

APPENDIX B
FOLLOW-UP LETTER

March 18, 1993

Dear Colleague:

I recently distributed packets containing two instruments and a supplementary data sheet related to a study of the work behavior type and overall job satisfaction level of academic librarians in Florida. Individual subjects were selected based on their membership in ACRL, the academic caucus of FLA, or their active participation in other professional organizations. You were identified as a potential subject based on this criteria.

Since I have not yet received your response, I am asking you again to assist me in this project by completing the Minnesota Satisfaction Questionnaire (MSQ), the Marcus Paul Placement Profile (MPPP) and the supplementary data sheet previously sent to you and returning them to me by Wednesday, March 31. Completion of the instruments will take about 15 minutes. If you do not wish to participate in the study, please return the blank forms to me by March 31. If you need another set of forms, please contact me by mail or e-mail.

This study is the final section of my doctoral dissertation work and your participation is important to me. In addition, the study has the potential to provide information relevant to recruitment for academic librarianship and to career development. Your participation will strengthen the study and add to the body of knowledge concerning the profession.

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After an initial review to determine that all three forms have been returned and to identify those individuals who wish to receive the MPPP report, all names and identifying numbers will be removed prior to statistical analysis. Your responses will be treated confidentially at all stages of the project. No individual subject or single institution will be identified in any way.

If you have any questions concerning the study, please contact me by telephone after April 1, 1993 or by e-mail. Thank you for your assistance in this project.

Sincerely yours,

July 19, 1993

Dear Colleague:

Thank you for your participation in the research study I am conducting on job satisfaction and work behavior type of academic librarians in Florida. The raw response was over 70 percent of those contacted.

By signing the Marcus Paul Placement Profile (MPPP) form you indicated an interest in receiving a copy of your profile results. It is included for you. In order to increase your understanding of the MPPP, a brief general summary follows.

The MPPP was developed using W. M. Marston's behavioral model and the research of J. Nickens and J. P. Bauch. The instrument was developed to discern work behavior type for the purpose of matching individuals and jobs. MPPP scores are scaled, plotted on a graph and an interpretation is printed. The subject's highest score of the four MPPP scores represents the primary type of best fit. The four possible types are:

> Energizer (E): These individuals are actively engaged in getting results. They are assertive and use a direct approach as they pursue goals. High "E" type workers may be impatient with detail and they desire direct answers and action from associates. They are creative and have many ideas for improving work processes.

Inducer (I): Inducers involve others as they pursue their objectives. They are sensitive to needs of their associates, and share optimistic outlooks as they influence others. They are good at using group processes to accomplish goals, being able to clarify ideas for themselves and others. They place more emphasis on people and interpersonal relations than on their organization.

Concentrator (C): Normally, the "C" types apply their skills in orderly ways resisting distractions. They are steady workers, and are loyal to the organization, showing great patience. They are systematic, effective, and help maintain moderation in tense situations.

Producer (P): Producers strive for quality as they carefully follow procedures, guidelines, or standards. They can support their decisions and actions with irrefutable documentation. Producers expect clear directions but they can be relied on to meet their deadlines, follow orders, and carry out their assignments with precision.

Again, thank you for your participation in this study. I am completing the statistical analysis of the data this fall and expect the entire study to be in final form sometime during 1994.

Sincerely,

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BIOGRAPHICAL SKETCH

Carol Ritzen Kem was born and grew up in Springfield, Missouri. She attended public schools and college in Springfield and graduated from Drury College with a Bachelor of Arts degree in history, magna cum laude (Departmental Distinction in History and Education). She continued her education at the University of Illinois, Champaign-Urbana, and earned a Master of Arts degree in history, followed by a Master of Science in Library Science degree from the University of North Carolina, Chapel Hill.

She taught history for one year at Urbana High School, Urbana, Illinois, was a graduate teaching assistant in the Department of History at the University of Illinois, and worked at the Perkins Library of Duke University before beginning graduate work in library science.
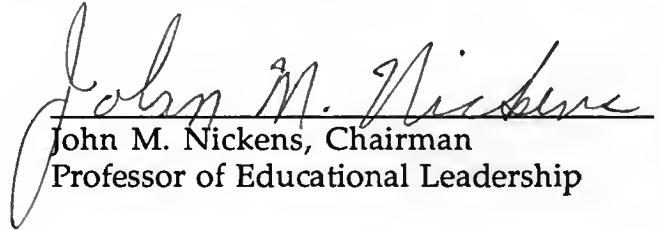
Since 1972 she has been a member of the faculty in the University of Florida Libraries at the University of Florida. Currently, she is Sociology Collection Bibliographer in the Department of Collection Management with the rank of Associate University Librarian. Her responsibilities include management of the collections in Afro-American Studies, Criminology, Sociology, and Women's Studies.

She is a member of the American Library Association, the Southeastern Library Association, and the Florida Library Association. She was selected for membership in Phi Alpha Theta (history honorary society), Pi Gamma Mu (social science honor society), Beta Phi Mu (library science honor society), and Mortar Board (scholarship and leadership honor society). An

active volunteer, she has served as an officer or board member for a variety of professional, community and charitable organizations.

She married William Reade Kem in 1968. He is Professor of Pharmacology and Therapeutics, College of Medicine, University of Florida. They have two sons, Reade, a 1993 graduate of Swarthmore College, and Eric, a member of the Swarthmore College Class of 1998.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

John M. Nickens, Chairman
Professor of Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.
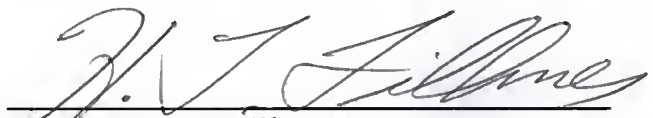
James W. Hensel
Professor of Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

David S. Honeyman, Jr.
Associate Professor of Educational
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1994

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